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PROCEEDINGS

OF THE

TENTH ANNUAL CONVENTION

OF THE

Association of Colleges and Preparatory Schools

OF THE

MIDDLE STATES AND MARYLAND

HELD AT THE

UNIVERSITY OF PENNSYLVANIA

PHILADELPHIA, PA.

Friday and Saturday, November 27, 28, 1896

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OF THE

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Woman's College,	Frederick, Md.,	Joseph H. Apple, A. M.

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Albany Academy,	Albany, N. Y.,	Henry P. Warren, L. H. D.
Albany High School,	Albany, N. Y.,	Oscar D. Robinson.
Bayonne City High School,	Bayonne City, N. J.,	M. J. B. Thomas.
Binghamton Central High School,	Binghamton, N. Y.,	Albert Leonard, A. M., Ph. D.
Bishopthorpe School,	S. Bethlehem, Pa.,	Alberta Oakley.
Bordentown Military Institute,	Bordentown, N. J.,	Thomas H. Landon.
Brearley School,	New York City,	J. G. Crosswell, A. B.
Boys' High School,	Reading, Pa.,	M. E. Scheibner, Ph. D., Sc. D.
Boys' High School,	Brooklyn, N. Y.,	John Mickleborough.

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Carey School, The	Baltimore, Md.,	J. A. Dunham, A. B.
Cathedral School of St. Paul's,	Garden City, L. I.,	Frederick L. Gamage, A. B., A. M.
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Cheltenham Academy,	Ogontz, Pa.,	John C. Rice, Ph. D.
Chelten Hills School,	Wyncote, Pa.,	E. W. and A. Heacock.
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Colgate Academy,	Hamilton, N. Y.,	Frank L. Shepardson, A. M.
Collegiate School,	241 W. 77th Street, New York City,	L. C. Mygatt.
Collegiate Institute,	York, Pa.,	E. T. Jeffers.
Columbia Grammar School,	34 & 36 E. 51st St., New York City,	Benj. Howell Campbell, A. M.
Conference Academy,	Dover, Del.,	W. L. Gooding, Ph. D.
Curtis School, The	177 W. 73d Street, New York City,	Osborn Marcus Curtis, A. B., C. E.
Cutler School, The	20 E. 50th Street, New York City,	A. H. Cutler.
Dearborn-Morgan School,	Orange, N. J.,	David A. Kennedy, Ph. D.
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Easton High School,	Easton, Pa.,	B. F. Sandt.
Episcopal Academy,	Philadelphia,	William H. Klapp, A. M., M. D.
First Pennsylvania State Normal School,	Millersville, Pa.,	E. Oram Lyte, A. M., Ph. D.
Frederick Academy,	Frederick, Md.,	Lucian S. Tilton, A. B.
Friends' Academy,	Locust Valley, Queens Co., N. Y.,	J. Chauncey Shortlidge, A. B.
Friends' Central High School,	15th and Race Sts. Philadelphia,	Boys' Dept., William W. Birdsall, Girls' Dept., Annie Shoemaker.
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Friends' Select School,	140 N. 16th Street, Philadelphia,	J. Henry Bartlett.
Friends' School,	Wilmington, Del.,	Isaac T. Johnson, A. M.
Friends' Select School,	Washington, D. C.,	Thomas W. Sidwell.

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Girls' High School,	17th & Sp. Garden Sts., Phila.,	J. D. Wight, Ph. D.
Girls' Latin School,	Baltimore, Md.,	W. H. Kelley.
Hamilton School, The,	Philadelphia,	Le Roy Bliss Peckham, LL. B.
Harvard School,	578 Fifth Avenue, New York City,	William Freeland, A. B.
Hill School, The	Pottstown, Pa.,	John Meigs, Ph. D.
Irving School,	New York City,	Louis Dwight Ray, M. A., Ph. D.
Jacob Tome Institute, The	Port Deposit, Md.,	W. P. Eveland, A. M., Ph. D.
Kingston Academy,	Kingston, N. Y.,	Henry White Callahan, Ph. D.
Lawrenceville School,	Lawrenceville, N. J.,	James C. Mackenzie, Ph. D.
Manual Training High School,	Brooklyn, N. Y.,	Charles D. Larkins, Ph. B.
Geo. F. Martin's Schools for Boys,	39th and Locust Sts., Philadelphia,	George Fox Martin, A. M.
Maryland State Normal School,	Baltimore, Md.,	E. B. Prettyman.
McDonough School,	McDonough, Md.,	James T. Edwards, D. D., LL. D.
Milton Pub. Schools,	Milton, Pa.,	L. A. Beardsley, A. B.
Montclair Public School,	Montclair, N. J.,	Randall Spaulding, A. B.
Moravian Seminary,	Bethlehem, Pa.,	J. Max Hark, D. D.
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J. H. Morse's School,	423 Madison Ave., New York City,	J. H. Morse, A. M.
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Newark Academy,	Newark, N. J.,	S. A. Farrand, Ph. D.
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Warren High School,	Warren, Pa.,	W. L. MacGowan.
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Sketch of the Association of Colleges and Preparatory Schools of the Middle States and Maryland, From its Origin in 1887 to 1894.

The Association of Colleges and Preparatory Schools of the Middle States and Maryland has grown so rapidly, and extended its boundaries so much beyond its original territory, that but few of its present members know its origin and history. It seems well, therefore, to give a sketch of its development.

In the winter of 1887, President Edward H. Magill, of Swarthmore College, delivered a lecture at various colleges in the State of Pennsylvania on "The Importance of a College Education for Teachers in our Public Schools."

While visiting the colleges for this purpose he consulted their presidents as to the feasibility of calling a meeting of college authorities, with the objects of establishing closer relations with one another, and procuring certain legislation in favor of educational institutions tending to this result.

Pursuant to a call issued by Presidents, T. G. Apple, of Franklin and Marshall; J. H. M. Knox, of Lafayette, and E. H. Magill, of Swarthmore College, a number of representatives of the colleges of Pennsylvania met at Harrisburg March 1, 1887. The object of this meeting, as stated in the call, was "to seek at the hands of the present legislature the passage of a new act * * * to render impossible the further taxation of any property of institutions of learning, etc." In addition to the above, which may be called the primary object of the conference, it was tacitly understood among a number of college presidents that an effort should be made to form a permanent organization. Accordingly, near the close of the first session President Magill presented the subject of organizing a permanent college association. A constitution, prepared and presented by him, was thoroughly discussed, and a committee of seven, consisting of Presidents, Magill, of Swarthmore College; Apple, of Franklin and Marshall; Ferguson, of Westminster; Knox, of Lafayette; McKnight, of Pennsylvania

College; Moffat, of Washington and Jefferson, and Seip, of Muhlenberg, was appointed to arrange for completing the organization at a meeting to be called by them at some future day.

This Committee on Organization issued a call for a meeting to be held at Franklin and Marshall College July 5, 1887. All college faculties of the State were invited to participate. Fifteen colleges responded to the call and sent delegates to the meeting. The report of the Committee on Permanent Organization was heard and the Constitution proposed by them was adopted with some amendments.

Sections 1 and 2, Article I, of this Constitution are as follows:

ARTICLE I.

NAME AND OBJECT.

SECTION 1. The name of this Association shall be THE COLLEGE ASSOCIATION OF PENNSYLVANIA.

SEC. 2. The object of this Association shall be to consider the qualifications for candidates for admission to the colleges and the methods of admission; the character of the preparatory schools; the courses of study to be pursued in the colleges, including their order, number, etc.; the relative number of required and elective studies in the various classes; the kind and character of degrees conferred; methods of college organization, government, etc.; the relation of the colleges to the State, and to the general educational systems of the State and country; and any and all other questions affecting the welfare of the colleges, or calculated to secure their proper advancement.

The expenses of holding the meetings of the Association, conducting the correspondence, printing, etc., were to be equally assessed upon the colleges represented in the Association.

Following the work of organization, papers were read by Dr. E. H. Magill, Dr. T. G. Apple and Dr. E. J. James.

The following are the officers of the Association for the year 1887–88: President, T. G. Apple, D.D., LL.D., Franklin and Marshall College, Lancaster, Pa.; Vice-President, E. H. Magill, LL.D., Swarthmore College, Swarthmore, Pa.; Recording Secretary, E. S. Breidenbaugh, Sc.D., Pennsylvania College, Gettysburg, Pa.; Corresponding Secretary, J. D. Moffat, D.D., Washington and Jefferson College, Washington, Pa.; Treasurer, E. J. James, Ph.D., University of Pennsylvania, Philadelphia, Pa.; Executive Committee, in addition to the above officers *ex officiis; Chairman*, T. L. Seip, D.D., Muhlenberg College, Allentown, Pa.; John Mitchell, A.M., Westminster

College, New Wilmington, Pa.; R. B. Youngman, Ph. D., Lafayette College, Easton, Pa.; E. A. Frost, A. M., Western University, Pittsburgh, Pa.

At a meeting of the Executive Committee held at the University of Pennsylvania in November following, a committee consisting of Provost William Pepper, University of Pennsylvania; President Sharpless, Haverford College; Professor Richards, Muhlenberg; Professor March, Lafayette; Professor Dubbs, Franklin and Marshall, was appointed on "Uniformity of Requirements for Admission to College," *to confer with the Committee of the Schoolmasters' Association upon this subject. This committee was also requested to confer with colleges of the Middle States and Maryland upon this subject and to invite their co-operation.*

At the second meeting of the committee held in February, 1888, at the University of Pennsylvania, the following action was taken, viz.: "A desire having been expressed by various members of the Association to have the colleges of the Middle States and Maryland meet with us at the coming annual convention, it was decided to send them invitations to be present and take part in our deliberations, with a view to the formation of a general organization of the colleges of these States."

The second annual convention was held at the University of Pennsylvania in July, 1888. At this meeting the name was changed to the "College Association of the Middle States and Maryland," and the Constitution was changed so as to make eligible to membership any college in the States included in its name.

This convention devoted much time to the discussion of "Endowments," and an able paper on this subject was read by Dr. J. G. Fitch, M. A., LL. D., of London, England.

The first annual convention of the Association, after its reorganization, was held at the University of Pennsylvania the Friday and Saturday following Thanksgiving Day, 1889. Since that time the Association has held its annual conventions on these days.

The Executive Committee, at its first meeting, recommended to circulate the minutes among the preparatory schools.

The aim of the Association has been to unite the educational interests within its territory. In order to do this most effectively it was long felt by the leading educators of these States that the colleges and preparatory schools must co-operate. Papers developing this idea were read and the subject was brought out in the discussions; *e. g.*, at the first annual convention, Professor Nicholas Murray Butler, of Columbia College, read a paper on "The Duty of the University to the Common Schools," and at the third annual convention, Professor George T.

Ettinger, of Muhlenberg College, read a paper on "The Relations and Duties of Colleges to their Preparatory Schools."

At this third annual convention, held at Cornell University, in 1891, several preparatory schools were represented and the question of admitting such schools to membership came up in a definite shape by the application for membership in the Association of "New York College for Training Teachers," which was referred to the Executive Committee and also the question of admitting preparatory schools to membership, and it was requested that said committee report on the same at the next convention. Accordingly, at the fourth annual convention of the Association, held at Swarthmore College, in November, 1892, Professor Magill, on behalf of the Executive Committee, recommended the following action: "That we favor such a change in our Constitution and By-Laws as shall make the body representative of all universities, colleges, normal and high schools and other schools which prepare students for college within the bounds of the Middle States and Maryland." The report was accepted and the proposed resolutions adopted, and the Executive Committee empowered to make the necessary changes in the language of the Constitution.

During the year 1892–93, forty-four preparatory schools, having been approved by the Executive Committee, were admitted to membership.

Article VI of the Constitution has been changed, so that the expenses are now paid by an annual fee of $5 from each institution represented in the Association.

At present (January, 1894), the Association has eighty-two institutions on its roll of membership, of which thirty-eight are colleges and universities and forty-four secondary schools. Its proceedings are published annually.

The following is a list of the publications of the Association, together with the titles of the papers contained therein:

History of the Organization and the Proceedings of the First Convention of the College Association of Pennsylvania, held at Franklin and Marshall College, Lancaster, Pa., July 5 and 6, 1887. J. B. Lippincott Company, 1887.

"The Proper Relation of Colleges to the Educational Institutions of the State." President E. H. Magill, Swarthmore College.

"The Idea of a Liberal Education." Dr. T. G. Apple, Franklin and Marshall College.

* "American University." Professor E. J. James, University of Pennsylvania.

* Not published in the proceedings.

Proceedings of the Second Annual Convention of the College Association of Pennsylvania, held at the University of Pennsylvania, Philadelphia, July 5 and 6, 1888, and its Reorganization as the College Association of the Middle States and Maryland. Globe Printing House, 1888.

"A Collegiate Education." Professor Enoch Perrine, Bucknell University.
"Higher Education." Provost Wm. Pepper, University of Pennsylvania.
"Relations of the College to the University." President Magill, Swarthmore College.
"Endowments." Dr. J. G. Fitch, London, England.
"The Place of History in a College Course." Professor W. P. Holcomb, Swarthmore College.
* "The Study of English." Professor Perrine.

Proceedings of the First Annual Convention of the College Association of the Middle States and Maryland, held at the University of Pennsylvania, Philadelphia, November 29 and 30, 1889. Globe Printing House, 1890.

"The Place of Technical Instruction in Our Colleges and Universities." President C. K. Adams, Cornell University.
"Combination of University Training with Technical Education." President Isaac Sharpless, Haverford College.
"Study of English Classics for Admission to College." Professor F. A. March, Lafayette College.
"College Students who are not Candidates for a Degree." Professor Allen Marquand, Princeton College.
"Relation of Pedagogy to the University." Professor Jerome Allen, University of the City of New York.
* "The Duty of the University to the Common Schools." Professor Nicholas Murray Butler, Columbia College.
"The Duty of the College to its Students." Professor Wm. A. Lamberton, University of Pennsylvania.
"The University in Modern Life." Provost Pepper, University of Pennsylvania.
"The Degree of A. B." Dean Edward H. Griffen, Johns Hopkins University.
"The Value of the Bachelor's Degree." President Merrill E. Gates, Rutgers College.
"The Fellowship System in American Colleges." Professor Henry F. Osborn, Princeton College.
"The System of Admission by Certificate." Professor Horatio S. White, Dean of Cornell University.
"The Philosophical Faculty in the United States." Professor Munroe Smith, Columbia College.
"The Right Reform of Examinations." Professor J. Rendell Harris, Haverford College.

Proceedings of the Second Annual Convention of the College Association of the Middle States and Maryland, held at Princeton College, N. J., November 28 and 29, 1890. Globe Printing House, 1891.

* Not published in the proceedings.

"The Co-ordination of Colleges and Universities." President C. K. Adams, Cornell University.

"The Shortening of the College Curriculum." President D. C. Gilman, Johns Hopkins University.

Same Topic. President Francis L. Patton, Princeton College.

"The Teaching of Philosophy in American Colleges." Professor Thomas Hughes, St. Francis Xavier's College.

"The Educational Value of College Studies." Professor Simon L. Patten, University of Pennsylvania.

"University Extension." Provost William Pepper, University of Pennsylvania.

Same Topic. President Seth Low, Columbia College.

Same Topic. Commissioner W. T. Harris.

"Problems in Higher Education." President James C. Welling. Columbian University, Washington, D. C.

"The Idea and Scope of a Faculty of Philosophy." Bishop John J. Keane, Rector of the Catholic University of America.

"The Taxation of College Property." President T. L. Seip, Muhlenberg College.

"The Place of the English Bible in the College Curriculum." President George Edward Reed, Dickinson College.

"The Ideal College Education." Professor J. G. Schurman, Cornell University.

"Inductive Work in College Classes." Professor F. H. Stoddard, University of the City of New York.

"The Relation of the Colleges to the Modern Library Movement." Melvil Dewey, Secretary of the University of the State of New York.

"The Moral and Religious Oversight of Students." Dr. James McCosh, Princeton College.

Proceedings of the Third Annual Convention of the College Association of the Middle States and Maryland, held at Cornell University, Ithaca, N. Y., November 27 and 28, 1891.

"The True Scope of College Discipline." Professor Jacob Cooper, Rutgers College.

"The Scope of Modern Languages in Our Colleges and the Best Methods of Teaching Them." Ex-President Magill, Swarthmore College.

"The Aim and Scope of the Study of Modern Languages and Methods of Teaching Them." Professor O. B. Super, Dickinson College.

"The English Bible—Its Study as a Classic in Our Colleges." Professor W. R. Duryee, Rutgers College.

"The College and the People: How May They be Brought into Closer Relations?" Professor George A. Harter, Delaware College.

"The Relations and Duties of Colleges to Their Preparatory Schools." Professor George T. Ettinger, Muhlenberg College.

"On Permitting Students to Take Studies in Professional Schools while Pursuing a Regular Undergraduate Course." Professor Nicholas Murray Butler, Columbia College.

"On Allowing Undergraduate Students to Study in Professional Schools." Professor C. A. Collin, Cornell University Law School.

"Athletics and Intercollegiate Games." President Thomas Fell, St. John's College, Annapolis.

"The Position of Metaphysics in a Course of Scientific Philosophy." Professor **E. A.** Pace, Catholic University of Washington.

"Is it Worth While to Uphold any Longer the Idea of a Liberal Education?" President D. C. Gilman, Johns Hopkins University.

"University Extension." Professor E. J. James, University of Pennsylvania.

Proceedings of the Fourth Annual Convention of the College Association of the Middle States and Maryland, held at Swarthmore College, Swarthmore, Pa., November 25 and 26, 1892. Educational Review, Columbia College, New York.

How can High Schools be made so uniformly efficient that their graduates may, without further preparation, enter college? "The Experience of New York State," Secretary Melvil Dewey.

Same Topic. "Proposals for the Middle States." President George W. Atherton, Pennsylvania State College.

"The Best Methods of Determining and Recording the Scholarship of Students." Dean Horace Jayne, University of Pennsylvania.

Same Topic. Professor M. H. Richards, Muhlenberg College.

"How Can the Highest Educational Efficiency be Secured for English in American Colleges?" Professor Felix E. Schelling, University of Pennsylvania.

"The Relation of English Literature to Æsthetics." Professor F. A. March, Lafayette College, Pennsylvania.

"The Scope and Function of Rhetoric and Composition." Professor Charles E. Hart, Rutgers College, New Jersey.

"College Libraries: How Best Made Available for College Uses?" Mr. George William Harris, Librarian of Cornell University.

Same Topic. Professor J. H. Morgan, Dickinson College, Pennsylvania.

"Higher Education in the United States." President Seth Low, Columbia College.

*"Geography as a Scientific Basis for the Study of History." President D. C. Gilman, Johns Hopkins University.

"Geography as a Scientific Basis for the Study of Biology." Dr. Spencer Trotter, Swarthmore College.

"To What Extent is Student Government Available as a Means of College Discipline?" Professor Merrill E. Gates, Amherst College.

Same Topic. President James M. Taylor, Vassar College.

"The Relations Between the High School, the College and the University." Secretary Melvil Dewey, University of the State of New York.

Proceedings of the First Annual Convention of the Association of Colleges and Preparatory Schools of the Middle States and Maryland, held at Columbia College, New York, December 1 and 2, 1893. Avil Printing Company, Philadelphia, 1894.

Should the degree of Bachelor of Arts be conferred on students who have studied neither Greek nor Latin?

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*Not published in the proceedings.

Papers by Professor Andrew F. West, of Princeton College, New Jersey; * Secretary Melvil Dewey, of the University of the State of New York; Principal C. H. Thurber, of Colgate Academy, Hamilton, N. Y.; Principal F. L. Gammage, of the Cathedral School, Garden City, L. I.

Discussion, under the five-minute rule, by Professor Morris Loeb, of the University of the City of New York; Professor O. B. Super, of Dickinson College, Carlisle, Pa.; Principal James M. Green, of the State Normal School, Trenton, N. J.

Will any kind or amount of instruction in modern languages make them satisfactory substitutes for Greek or Latin as constituents of a liberal education?

Papers by Professor H. H. Boyesen, of Columbia College, New York; Professor H. C. G. Brandt, of Hamilton College, Clinton, N. Y.; Dr. Julius Sachs, of the Collegiate Institute, New York; Principal James C. MacKenzie, of the Lawrenceville School, New Jersey.

Discussion, under the five-minute rule, opened by Professor E. H. Magill, of Swarthmore College, Pennsylvania.

President's Address. Subject: "The Neglect of the Student in Recent Educational Theory." President James M. Taylor, of Vassar College, Poughkeepsie, N. Y.

Work in English in the Colleges and Preparatory Schools.

Papers by President James C. Welling, of Columbian University, Washington, D. C.; Professor J. Morgan Hart, of Cornell University, Ithaca, N. Y.; Dr. Edward Brooks, Superintendent of Schools, Philadelphia, Pa.; Mr. Wilson Farrand, of the Newark Academy, Newark, N. J.

Proceedings of the Second Annual Convention of the Association of Colleges and Preparatory Schools in the Middle States and Maryland, held at the Johns Hopkins University, Baltimore, Md., November 30, and December 1, 1894. Avil Printing Company, Philadelphia, 1895.

"The Place and Teaching of History and Politics in School and College."

Papers as follows:

"Is History Past Politics?" Professor Herbert B. Adams, Johns Hopkins University, Baltimore.

"Ought the Sources to be used in Teaching History?" Professor James Harvey Robinson, University of Pennsylvania, Philadelphia.

"The Place of History in the Preparatory Schools." Principal Henry P. Warren, Albany Academy, Albany, N. Y.

"Civics in the Secondary Schools." Mr. Samuel E. Forman, Baltimore.

Discussion, under the five minute rule, by Professor Franklin H. Giddings, Columbia College, New York City; Principal C. M. Phillips, State Normal School, West Chester, Pa.; Mr. Glenn Mead, Episcopal Academy, Philadelphia, Pa.

Discussion of the Report on the Requirements for Entrance Examinations in English of the Committee of Ten, appointed by the Association at the last Annual Convention.

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* Not published in the proceedings.

Papers by Professor Francis H. Stoddard, University of the City of New York; Professor James W. Bright, Johns Hopkins University, Baltimore, Maryland; Mr. Wilson Farrand, Newark Academy, Newark, N. J.; Professor Bliss Perry, Princeton College, Princeton, N. J.; Mr. Percival Chubb, Brooklyn Public Schools, Brooklyn.

Discussion, under the five-minute rule, by Professor F. A. March, Lafayette College, Easton, Pa.; Professor John B. Van Meter, Woman's College, Baltimore; Melvil Dewey, Secretary University of the State of New York, Albany, N. Y.; Professor Nicholas Murray Butler, Columbia College, New York City.

"The Future of the College." Papers, limited to twenty minutes each, by Mr. Talcott Williams, Philadelphia *Press;* President Isaac Sharpless, Haverford College, Pennsylvania; President E. D. Warfield, Lafayette College, Easton, Pa.; *President M. W. Stryker, Hamilton College, Clinton, N. Y.

Discussion, under the five-minute rule, opened by Professor Edmund J. James, University of Pennsylvania, Philadelphia; Principal Isaac T. Johnson, Friends' School, Wilmington, Del.

Proceedings of the Ninth Annual Convention of the Association of Colleges and Preparatory Schools of the Middle States and Maryland, held at Lafayette College, Easton, Pa., November 29 and 30, 1895. Avil Printing Company, Philadelphia, 1896.

THE AIM AND METHOD OF COLLEGE WORK IN FRENCH AND GERMAN.

Papers:

Professor Lawrence A. McLouth, New York University.

"The Oral Element in Modern Language Instruction." Mr. I. H. B. Spiers, The William Penn Charter School, Philadelphia.

"Environment in Modern Language Instruction." Professor M. D. Learned. University of Pennsylvania, Philadelphia.

"Some Psychological Aspects of the Teaching of Modern Languages." Dr. Francis Burke Brandt, Central High School, Philadelphia.

Discussion:

Dr. Julius Sachs, Collegiate Institute, New York.

Dr. Eliot R. Payson, Rutgers Preparatory Academy, New Brunswick, N. J.

Mr. Randall Spaulding, Montclair Public School, Montclair, N. J.

THE SIGNIFICANCE OF HERBART FOR SECONDARY AND HIGHER EDUCATION.

President Charles De Garmo, Swarthmore College, Pa.

Discussion:

Professor Lightner Witmer, University of Pennsylvania, Philadelphia.

Professor Frank M. McMurry, University of Buffalo, Buffalo, N. Y.

Dr. C. Hanford Henderson, Northeast Manual Training School, Philadelphia.

Dr. Walter L. Hervey, Teachers' College, New York City.

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* Not published in the proceedings.

THE TEACHING OF THE CLASSICS: ARE WE SACRIFICING THE HUMANISTIC TO THE LINGUISTIC?

Papers (limited to twenty minutes each):

Professor W. B. Owen, Lafayette College.
Rev. Charles H. Wilcox, Lawrenceville School, Lawrenceville, N. J.
Professor W. A. Robinson, Lehigh University, South Bethlehem, Pa.
Dr. M. E. Scheibner, Boys' High School, Reading, Pa.

Discussion:

Professor Charles E. Bennett, Cornell University, Ithaca, N. Y.
Mr. Henry W. Rolfe, Philadelphia.
Dr. Albert G. Rau, Moravian Parochial School, Bethlehem, Pa.

Proceedings of the Tenth Annual Convention of the Association of Colleges and Preparatory Schools of the Middle States and Maryland, held at the University of Pennsylvania, Philadelphia, Pa., November 27–28, 1896. Avil Printing Company, Philadelphia, 1896.

"SHALL HISTORICAL STUDIES BE A NECESSARY PART OF COLLEGE ENTRANCE REQUIREMENTS?"

Paper:

Professor H. Morse Stephens, Cornell University.

Discussion (under the ten-minute rule):

Professor John McMaster, University of Pennsylvania.
Professor Lucy M. Salmon, Vassar College.
Mr. C. A. Herrick, Central High School, Philadelphia.

"HIGH SCHOOL SCIENCE STUDIES AS A PART OF THE PREPARATION FOR COLLEGE."

Paper:

Professor Ira Remsen, the Johns Hopkins University.

Discussion (under the ten-minute rule):

Professor George F. Barker, University of Pennsylvania.
Mr. O. D. Clark, Boys' High School, Brooklyn, N. Y.

CONFERENCE ON COLLEGE ENTRANCE REQUIREMENTS.

Some of the subdivisions of the subject are:

(*a*) The advanced age at which the average student now enter colleges.
(*b*) The advanced age at which college men must now enter the professions, and the effect upon the individual and the community.
(*c*) The tendency of men to omit the college course as college entrance requirements are increased, that they may enter professional or technical schools direct from the secondary schools.
(*a*) Should the present standard of college entrance requirements be lowered through concerted action, and partial, even if not complete, uniformity of requirements?
A partial reorganization of our public school system, with a view to its more perfect articulation with our colleges.

(*f*) Effect of lowering the age of entrance to college upon the undergraduate and graduate study, and upon the social life of the student.

The form decided upon for the consideration of these topics is that of "Round-Table" discussion by the following:

Superintendent Edward Brooks, Philadelphia; President Eliot, Harvard University; Vice-Provost Fullerton, University of Pennsylvania; President Gilman, Johns Hopkins University; U. S. Commissioner of Education W. T. Harris; Chancellor Holland, Western University of Pennsylvania; Principal Levermore, Adelphi College; Chancellor McCracken, New York University; President Patton, Princeton University; President Schurman, Cornell University; President Sharpless, Haverford College; President Thomas, Bryn Mawr College; Dean Thurber, Morgan Park Academy; President Warfield, Lafayette College; Dr. Talcott Williams.

President's Address, Dr. James C. Mackenzie.

Subject, "Democracy in Education."

Brief Address, Charles W. Eliot, President Harvard University.

PROCEEDINGS

OF THE

TENTH ANNUAL CONVENTION

OF THE

ASSOCIATION OF COLLEGES AND PREPARATORY SCHOOLS

OF THE

MIDDLE STATES AND MARYLAND.

UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, PA.,
November 27, 1896.

The Tenth Annual Convention of the Association of Colleges and Preparatory Schools of the Middle States and Maryland was called to order by the President, Dr. Mackenzie.

Vice-Provost welcomed the delegates and this was responded to by Dr. Mackenzie.

The attendance at this convention was very large, but only a small proportion of those present registered, therefore the following is a very incomplete list of those in attendance:

ADELPHI COLLEGE, BROOKLYN, N. Y.—President C. H. Levermore.

ABINGTON FRIENDS' SCHOOL, JENKINTOWN.—Louis B. Ambler.

BAYONNE HIGH SCHOOL, BAYONNE CITY, N. J.—Principal M. J. B. Thomas, Rachel Noir.

BOYS' HIGH SCHOOL, BROOKLYN.—O. D. Clark.

BRYN MAWR COLLEGE, BRYN MAWR, PA.—President Thomas, Joseph W. Warren, Herman T. Lukens.

BINGHAMTON HIGH SCHOOL.—Anna Hemans Smith.

CHELTENHAM ACADEMY, OGONTZ, PA.—Principal John C. Rice, Louis C. Williams, Major T. A. Blackford, Carleton A. Foote, Geo. A. Woodward, Paul A. Scharff, David B. Lankaker.

CHESTER HIGH SCHOOL, CHESTER, PA.—Principal Thomas S. Cole.

COLUMBIAN UNIVERSITY, WASHINGTON, D. C.—President B. L. Whitman, Dean A. P. Montague.

CENTRAL HIGH SCHOOL, PHILADELPHIA.—Francis Burke Brandt, Oscar C. S. Carter, Frank S. Edmunds, C. A. Herrick.

CHESTNUT HILL ACADEMY, CHESTNUT HILL, PA.—Principal C. Hanford Henderson, Philip N. Goepp.

COLLEGE FOR WOMEN, ALLENTOWN, PA.—President J. W. Knappenberger.

COLLEGIATE INSTITUTE FOR GIRLS, PHILADELPHIA.—Vice-Principal Susan C. Lodge.

COLUMBIA GRAMMAR SCHOOL, NEW YORK CITY.—Theodore C. Mitchell.

CORNELL UNIVERSITY, ITHACA, N. Y.—President Schurman, H. Morse Stephens.

DELAWARE COLLEGE, NEWARK, DEL.—President Harter, T. R. Wolf.

DICKINSON COLLEGE, CARLISLE, PA.—President Reed, J. H. Morgan, B. O. McIntire.

DREXEL INSTITUTE, PHILADELPHIA.—President James Mac Alister, Frederic W. Speirs.

DRISLER SCHOOL, NEW YORK CITY.—Frank Drisler.

DRURY HIGH SCHOOL, NORTH ADAMS, MASS.—Principal Herbert H. Gadsby.

FRIENDS' SCHOOL, PHILADELPHIA.—Principal Annie S. Clement.

FRIENDS' SELECT SCHOOL, PHILADELPHIA.—Walter W. Haviland, Anna Yarnall.

FRANKLIN AND MARSHALL COLLEGE, LANCASTER, PA.—Professor John B. Kieffer, C. Ernest Wagner.

GALLAUDET COLLEGE, WASHINGTON, D. C.—President Edward M. Gallaudet.

GERMANTOWN ACADEMY, GERMANTOWN, PA.—W. S. Truesdell.

GIRLS' HIGH SCHOOL, PHILADELPHIA.—Jessie Dalrymple, Miriam Kuhn.

GIRLS' HIGH SCHOOL, GERMANTOWN.—Gertrude Manship.

HARVARD UNIVERSITY.—President Eliot.

HAVERFORD COLLEGE, PA.—President Sharpless.

HILL SCHOOL, THE, POTTSTOWN, PA.—Principal John Meigs.

HOBART COLLEGE, GENEVA, N. Y.—Milton Haight Turk.

HULMEVILLE HIGH SCHOOL, HULMEVILLE, PA.—E. W. Martindell.

JOHNS HOPKINS UNIVERSITY.—President Gilman, Professor Ira Remsen.

KOEHLER INSTITUTE, PHILADELPHIA.—J. L. Barnard.

LAFAYETTE COLLEGE, EASTON, PA.—President Warfield, Harry I. Woods.

LA SALLE COLLEGE, PHILADELPHIA.—Vice-President Brother Eliphus, Brother Artheman.

LAWRENCEVILLE SCHOOL, N. J.—Head Master James C. Mackenzie.

LEBANON VALLEY COLLEGE, ANNVILLE, PA.—President E. Benjamin Bierman.

MANHATTAN COLLEGE, NEW YORK CITY.—Brothers Blimond and Chrysostom.

MARTIN ACADEMY, KENNETT SQUARE, PA.—Principal Edgar Stimson.

NAZARETH HALL MILITARY ACADEMY, NAZARETH, PA.—Rev. C. C. Lanius.

NEWTOWN HIGH SCHOOL, NEWTOWN, PA.—C. J. Walter.

NEWARK ACADEMY, NEWARK, N. J.—Associate Master Wilson Farrand.

NEWARK HIGH SCHOOL, NEWARK, N. J.—Marie Büttner.

NEW YORK UNIVERSITY, NEW YORK.—Chancellor MacCracken, L. A. McLouth.

NORTH EAST MANUAL TRAINING SCHOOL, PHILADELPHIA.—John L. Stewart.

PENN COLLEGE, OSKALOOSA, IA.—F. W. Else.

PRINCETON UNIVERSITY, PRINCETON, N. J.—President Patton.

PHILADELPHIA PUBLIC SCHOOLS.—Superintendent Edward Brooks.

RUTGERS COLLEGE, NEW BRUNSWICK, N. J.—Louis Bevier, Jr.

RUTGERS PREPARATORY SCHOOL, NEW BRUNSWICK, N. J.—Head Master Eliot R. Payson.

SACHS' COLLEGIATE INSTITUTE, NEW YORK CITY.—Chas. L. Harrington.

SCHOOL OF PEDAGOGY, PHILADELPHIA.—Student Francis E. Horner.

STATE NORMAL SCHOOL, BLOOMSBURG, PA.—Joseph H. Dennis.

SWARTHMORE COLLEGE, SWARTHMORE, PA.—President De Garmo, Arthur Beardsley.

SWARTHMORE GRAMMAR SCHOOL.—Principal A. H. Tomlinson.

TEMPLE COLLEGE, PHILADELPHIA.—Albert E. McKinley.

UNIVERSITY OF CHICAGO, CHICAGO, ILL.—Dean C. H. Thurber.

UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, PA.—Vice-Provost George S. Fullerton, Professors J. Q. Adams, Geo. F. Barker, E. P. Cheyney, R. P. Falkner, H. Gibbons, A. Gudeman, W. A. Lamberton, W. P. Laird, D. C. Munro, E. W. Mumford, W. R. Newbold, J. H. Penniman, F. E. Schelling.

UNIVERSITY OF THE STATE OF NEW YORK, ALBANY, N. Y.—Melvil Dewey, Richard Jones.

UTICA FREE ACADEMY, UTICA, N. Y.—Principal Arthur L. Goodrich.

VASSAR COLLEGE.—President Taylor, Professor Lucy M. Salmon.

WELLSTOWN HIGH SCHOOL, WELLSTOWN, PA.—Principal Daniel Fleisher.

WEST CHESTER HIGH SCHOOL, WEST CHESTER, PA.—Principal Addison L. Jones.

WESTERN UNIVERSITY OF PENNSYLVANIA, ALLEGHENY, PA.—Chancellor W. J. Holland.

WESTFIELD FRIENDS' SCHOOL, CINNAMINSON, N. Y.—Principal Annie L. Croasdale.

WEST PHILADELPHIA FRIENDS' SCHOOL, PHILADELPHIA, PA.—Ellen B. Linton.

WESTTOWN SCHOOL, WESTTOWN, PA.—A. H. Dotaw.

WOMAN'S COLLEGE OF BALTIMORE.—Dean Jno. B. Van Meter.

YOUNG LADIES' SEMINARY, FREEHOLD, N. J.—Principal Eunice D. Sewall.

OTHERS PRESENT.—Andrew J. Morrison, Philadelphia, Assistant Superintendent Public Schools; Frank P. Bye, Kennett Square, Pa., Superintendent Schools Chester County; Mary Willets, Manasquan, N. J., Member Board Trustees Swarthmore College; Evalina H. Darlington, West Chester, Pa.; Tasso Terrell, Wilmington, Pa.; Mrs. O. D. Clark, Brooklyn; Anna M. Stackhouse, Rutledge, Pa.; Milton A. Forster, Montclair, N. J.; Miss Myers, Laura L. Rose, Thed Pershing, Philadelphia.

FIRST SESSION.

Address of Welcome.

Vice-Provost George S. Fullerton,

University of Pennsylvania.

I fancy that a word of welcome is really not necessary from any representative of the University of Pennsylvania to this Association. I wish to assure you that the University feels highly honored in having so many distinguished men and women, and so many workers in the great cause of education, here within her walls. And as every organism is greater than the aggregate of the parts of which it is made up, and every association—if it is really an association built together as it should be—is of more value than all the men who compose it, so we feel and believe that in having this Association of the Colleges and Preparatory Schools of the Middle States and Maryland meet here with us we are more honored than in having so many distinguished guests. The past work done by the Association has shown how useful such work undertaken in common can be; and so we feel confident that its future work will be even more important than the work of the past.

It is only within recent years that my official duties have led me to go about much among the educational institutions of this and other States. To speak of our own State, I confess it has opened my eyes to see how educational institutions have lived apart from each other and have tried to solve single-handed the problems at which we should all have been working together. We really have as yet touched each other very little, and we have all lost incalculably by this fact. We have formed no true system, well knit together, and capable of doing economically and thoroughly the task which confronts us—the task of educating, in the best sense of that word, citizens who are to take their place in, and work for, the Commonwealth.

When I go into neighboring States, as New Jersey and New York, I am depressed with the feeling that I am a stranger to the very men I should have known long ago; and with whom I should have been working shoulder to shoulder. This association is, I believe, really bringing us closer to one another, and helping us to feel that we are and must be parts of a great whole. We can do our best work only when we keep this clearly before us, and sink ourselves and all small and personal ends in the great end for which we are striving. We have a right to demand of one another, not merely sympathy, but advice and assistance; such advice and assistance as true friends and co-laborers should always stand ready and willing to offer.

This advice and assistance sometimes means more than we realize. I have found in various parts of the country earnest and intelligent schoolmasters striving unselfishly, in spite of the chilling influence of a cold and unsympathetic community, or of a community too ignorant to appreciate at their true value their efforts, to live up to their ideal of a good and thorough educational standard. Such men are worthy of all honor, and I am sure there is no member of this Association who would not, if he came near enough to them to understand them, hold out a helping hand. May we not, each and all, consider such mutual helpfulness, one of our serious duties?

In the name of the cause, and representing the University of Pennsylvania, I bid you a most hearty welcome to our own institution, assuring you that anything that we can do to help you to be more successful in your work, to make your institutions more successful, or to make you more comfortable or more at home while you are here with us, we will do most gladly. Command me and all my colleagues and feel you are not merely guests for the time being, but members of the University, and have a right to all the privileges enjoyed by any of the members of the University.

I have nothing further to say. You have great subjects to discuss, and subjects which I consider burning issues. A word of welcome need, after all, be nothing but an expression of good will, and a confession of needs and duties. Let us forget that we belong to one State or another, one institution or another, and remember only that we are teachers and have all the responsibilities of teachers. [Applause.]

I hope, Mr. President, that you will command this association and the University as though they were one; and that you will make use of the officers of this institution at any time for

the next two days. I can assure you that we shall set aside all engagements that may interfere in any way with any thing which this convention desires. [Applause.]

Response to Address of Welcome.

President James C. Mackenzie,
Head-Master of the Lawrenceville School.

Mr. Vice-Provost: I count it an honor, and it is a great pleasure, in behalf of my fellow-workers and members of this association to accept your very cordial invitation. Those of us who have for any length of time been connected with educational societies or other learned bodies in the Middle States, or in the United States, have reason to recall with very lively appreciation the gracious, ample hospitality of the University of Pennsylvania. Some of us have perhaps special reason for speaking of the matter, because this hospitality has entered into the formation of several of these societies and has been a factor in their maintenance.

Then we like to come to Philadelphia! It is a dignified place, a quiet place for scholarly folks to meet. The schools and the colleges and the newspapers, and the larger community, all show the same spirit, not only fraternal, but sororal, as well.

We are therefore glad to be here, and we are glad that we can be with such a goodly company, for much that we see and know promises that this shall be a memorable meeting, a distinct advance upon any previous meeting in the history of this sturdy association.

I think I ought to say a word to the audience about the program. It is like a continued story: you must read through it to the end. You will find that there is but one subject in all the program. The first two papers and the discussion of them are preliminary to the rest. The theme of all our deliberations is the age of entrance to college, and the content and character of the entrance examination. Historical studies have not yet found a place in a scheme of preparatory work; neither have the scientific branches of work.

We are very fortunate in that we are to have these subjects presented somewhat separately, in advance of the general discussions of the sessions.

I have very great pleasure in introducing, as the first speaker, who will discuss the subject, "Shall Historical Studies be a Necessary Part of College Entrance Requirements?" Professor H. Morse Stephens, of Cornell University.

Shall Historical Studies be a Necessary Part of College Entrance Requirements?

Professor H. Morse Stephens,
Cornell University.

Mr. President and Members of the Association: I have not yet ceased wondering why I, of all professors of history in this country, should be selected to open the discussion on this particular topic. Presumably it is because I know a great deal less about it than anybody else. Other speakers who will follow me—probably everybody in this room—must have more real knowledge, because of longer experience, of the question of history teaching in the preparatory schools and colleges and upon the connection which ought to exist between them, than I have. But it has occurred to me that probably the reason I have been selected was because my ignorance would at least make me perfectly impartial and would enable me to deal with the subject from an impartial point of view. Had I undergone instruction in history in American schools or in American universities I should probably have had some prejudice in favor of, or less likely but possibly against, the place in which I had received such education. But at any rate I can claim to speak with the most perfect and absolute impartiality; and I assume, further, that another reason that may have led the Executive Council to fix upon me to open the subject before you was because my antecedents have perhaps given rise to the idea that I might face American educational problems from a somewhat novel point of view.

As an Englishman I in my national insular fashion never troubled myself about American educational problems till I crossed the Atlantic two years ago. I thought a good deal and wrote a good deal about English educational problems; and coming over here I found an entirely new and different set

of questions to deal with. Take the question, for instance, which I am to open to you to-day. It has never entered into the minds of the authorities of the colleges in the universities of Oxford or Cambridge to dream of exacting an entrance requirement in history. The ordinary entrance requirements in those universities are on the old lines of Latin, Greek and elementary mathematics and nothing else, although history, natural science and other studies are encouraged in the schools by the offer of valuable scholarships to students entering the universities. Perhaps the most interesting hours I have spent since I have been in the United States were during the meeting of the National Educational Association at Buffalo. It was at Buffalo that I learned for the first time from actual contact with men eminent in every branch of education in America the nature of the problems that are facing American educational institutions to-day; and if anything I may say to you to-day is of the slightest value, it will be due to the experiences that I went through at Buffalo, to the conversations with acquaintances that I made there, and to the new and startling light thrown by those experiences (to a foreigner like myself) upon American educational questions.

To deal with the question that is before me, I must commence by saying that it seems to me that from the university professor's point of view—the university professor teaching history—the first answer that he would make to the question on the program is that any sort of entrance requirement in history is entirely undesirable. I speak from the selfish point of view of the university teacher. It would be very much better for us if we could get our freshmen, or sophomores, or juniors to enter our classes, with their minds perfectly blank on historical questions, than to have them come to us with their minds filled with erroneous ideas, the result of erroneous teaching. Strongly is this borne in upon me by the experience I have met with; and most earnestly do I desire to press upon your consideration the immense difficulty presented to the university professor of eradicating false ideas once inculcated during the school age. And it is more difficult, perhaps, to eradicate such false ideas in history than it is in such subjects as mathematics; because the way in which history fascinates the young causes youth to take sides and to take a one-sided interest in history which leads undoubtedly to a prejudiced attitude of mind. Not to allude to the study of national history but merely dealing with ancient history, I suppose many of us, when we read

ancient history in our boyhood, took sides keenly: we were either Athenians or Spartans — we were either Romans or Carthaginians; and our prejudices, I expect, formed a frame of mind from which it was difficult to arrive at that attitude of absolute impartiality and prompt receptivity that is necessary for receiving scientific instruction in history or scientific training in historical work. But I think that it ought to be borne in mind that this assemblage here and teachers generally, ought not to look upon this problem from the university professor's point of view. To be sure I express my own personal feeling when I say that I would rather have my students come into my classes with their minds blank as far as historical knowledge is concerned, than have them come with erroneous ideas, but I recognize that it would be a serious disaster for the schools of this country, and for this country as a whole, were historical studies to be entirely banished from the curriculum and only taught to that part of the community which is able to afford a college education.

Therefore, for the sake of the schools—for the sake of the country—it is well that the universities should recognize historical teaching in the schools by making a requirement for admission to the universities in history. There is a danger, if there existed no such entrance requirement, lest the teaching of history in the preparatory and in the high schools should be slurred over and regarded as of little importance; and if that was found to be the case in the more important of the fitting schools, a general attitude of contempt towards historical study and of belief in its want of educational value would be spread abroad; and therefore, for the sake of the country, for the sake of the schools—not for the sake of the universities and not the least bit in the world for the sake of the university professors of history—do I ask you to dwell for a moment upon the question of history entrance requirements. It is not necessary, before an audience like this, for me to deal with the study of history either from the point of view of its importance as a training for citizenship or as a scientific educational subject. Before a general audience it would be necessary for me to deal, and it is possible to use, all sorts of high-sounding phrases in dealing with such a subject as this. I could improvise an eloquent sentence or two about the advantage of the study of national history for the training of the citizen. I am not at all sure that I would not be tempted to run off on my favorite topic and deal with the value of history as a scientific disciplinary

study from an educational point of view. But before an audience of this sort, it is more useful to deal with practical questions; and I intend to leave such general themes severely alone and to turn to the specific question.

It being agreed—and I think that my point of view may seem somewhat novel to many of my audience—it being agreed that for the good of the schools there should be an entrance requirement in history for admission to the universities, of what sort, of what type, should this entrance requirement be? What fields of history should be embraced for entrance requirements? In preparing myself to deal with this topic I made use of the very valuable tables drawn up on the subject of entrance requirements and published in the *School Review* last June just before the Buffalo convention. On pages 370 to 376 of that number of the *School Review* will be found tabulated the various entrance requirements in history of the principal universities and colleges of the country. Their diversity is striking. It must be a task of incalculable difficulty for the teachers in the preparatory schools of this country to prepare boys or girls for entrance to the different universities in this country, when one considers how varied are their entrance requirements. That some harmony should be established seems to me the crying need of the question from the school point of view. At the same time I do not think that this difficulty can best be met by making a rigid entrance requirement in one or two, or even three particular subjects, to be demanded after due conference is held by the chief universities and colleges of this country. The most interesting, the most enlivening, the most stimulating feature in American education to-day is the free adoption of the principle of elective studies; and if the encouragement of elective studies is the trend—and it seems to me to be the trend—of university education in America to-day, the more we extend that elective principle to entrance requirements, and thus to the schools, the better. That being the case, what should be the subjects from which optional choice should be made for college entrance examinations?

In considering this question I read the elaborate report of the Committee of Ten and there found a long list suggested of optional studies which should be taught in the schools—English history, French history, United States history, Greek history, Roman history, general history, some periods of history studied intensively, and so on. The school, it seems to me, would have to be a very ideal one to be able to cover all these

subjects. After all, we have to be practical; and the attempt to progress too fast is likely only to increase confusion. Although I recognize the great weight that may be laid upon the advantage of the study of general history in the schools, I should be inclined to agree with the views laid down in the New England Association report on college entrance requirements in history, and in the report of the conference recently held at Columbia College on the same subject. Professor Hart, of Harvard, has kindly sent me the draft report of the committee on entrance requirements at Harvard, which has been submitted to the faculty there. The suggestion made by the teachers of history at Harvard is that as far as entrance requirements are concerned there shall be two fields recognized, and that students applying for entrance to Harvard should adopt one or the other of these two fields. Each field contains two subjects; the one field being ancient history, comprising Greek history and Roman history, and the other comprising English history and American history. If college entrance requirements are to have a real influence on the teaching of history in all the different types of schools some such scheme as this should be adopted. A choice should be given at least between Greek history, Roman history, English history and American history—the choice to be made by the candidate for admission—and he should be obliged to take two of these subjects at his option. I am not sure that it is wise to insist on the Harvard plan that he must take Greek with Roman or English with the American history. For I know that boys and girls often change their intentions while in the preparatory school. They may suddenly resolve to go to college, or suddenly resolve not to go to college; in which case if it is made necessary that one field or the other should be selected, change may involve a cram of an additional subject and therefore I think it would be better to announce that the choice would be two of the four subjects: Greek history, Roman history, English history and American history. Aside from affording an opportunity for allowing for a change of intention, there is much to be said in favor of the arrangement into the two fields mentioned. Naturally students desiring to take a classical course would bring up to the college—to the university—both Greek and Roman history for entrance; as they go together, it seems to me, with the study of the classics. As a man trained in the study of the classics for many years—having had all my school years and the early part

of my college life devoted to the study of Latin and Greek—I cannot conceive of any one qualified to enter college and offering Latin and Greek who has not a knowledge of Greek and Roman history; and I am further told that those students in the schools who take classical preparatory courses are, as a rule, going to college, and therefore it is well that their efforts should be as little scattered as possible during their years of school instruction and that they should supplement Latin and Greek with the study of Greek and Roman history. When they enter college with minds well disciplined by what experience has shown to be the best preparatory studies, they can get in their college course a knowledge of American history—the importance of which will be insisted upon, I believe, by the distinguished University of Pennsylvania professor who to-day follows me on this platform. But, provision must be made for those students, who do not intend in college or at the university to take the classical course, and who therefore do not go through a regular classical preparation in the schools. For them it seems to me immaterial whether they study Greek and Roman history or English and American history, as long as they bring up for examination, two subjects, on each of which they shall have spent a year of study. With regard to the larger part of the community, which does not intend to go to college, it seems to me far more advisable that they should study in school English and American history. They will not have another opportunity for the careful study of the history of their own country, or of that which inevitably leads to the right understanding of American history—English history. If there is time for but one history course running through a year of three periods a week, undoubtedly that course should be American history, of that I think no one can have any doubt; but if there is time for a second branch of history—and I think the importance of the subject demands it—allow me to set forth a plea for the study of English history, which best explains and makes clear the tendencies of American history.

The next point is, how the instruction given in history in the schools is to be tested for entrance to college. All of you who are practical teachers know the worthlessness of attempting to test by any single examination paper in history the work that has been done for a year or two years by a conscientious and careful teacher in a preparatory school; and to rely simply upon an entrance examination paper is unfair to the teachers in the schools, unfair to the individuals offering themselves for

entrance examinations, unfair to the subject of the study of history altogether. Now the report of the Columbia Conference, and of the New England Conference, suggests that an entrance examination paper in history should be supplemented by written evidence of work done in the school, in the shape of written reports, written recitations, abstracts of reading and so forth; and it seems to me, at least, that if we could supplement the ordinary examination paper (which can generally be met by a skillful cram of a few weeks) by some such means as these, entrance requirements would be more likely to be satisfactorily met and honest teaching in history in the schools would be encouraged. This is a point upon which I feel very deeply indeed, having had to look over hundreds of examination papers in history in my time; and with each batch I am the more convinced of the impossibility of gauging the student's intelligence and knowledge of history by the mere reading of an examination paper. But it is impracticable to expect such written evidence from all the schools in the country; and it would therefore be a little hard to make it a necessary condition before taking of an entrance examination paper in history to present such a body of written work as has been described in the New England Association report and in the report of the Columbia College Conference. There are schools that have not the means and have not the power to present such written evidence of the work done in them. This being the case, the presentation of such notes, abstracts, written work, or whatever it may be, should be requested and the matter presented carefully considered and allowed to count towards entrance, but it can hardly, at any rate at present, be made a necessary requirement. And in conclusion I should like to dwell for a moment upon the thought of the one thing that seems to me is necessary in historical education in this country, Is there good teaching of history in the schools? As long as history is taught by members of the staff who are specially engaged for their proficiency in Latin or Greek, or mathematics, or natural science, or anything else; as long as the teaching of history is thus put off upon the shoulders of some non-specialist teacher; so long will history be unfairly treated in the schools and so long will university professors desire that their students shall come to them with blank minds, rather than with minds which have been repelled from the study of history by the aridity of the teaching or with erroneous historical ideas, warped by too exuberant patriotism, or by too scattered

and unscientific misinformation. [Applause.] The good teaching of history in the schools would remedy all the objections which I feel to be so great against making an entrance requirement in history at all; and good teaching in the schools can only come by the employment of specialist teachers of history. The man who can teach history ought to be employed for the purpose of teaching history and nothing else. Even since I was a school-boy in England the idea of employing specialist teachers of history in the great English schools has come into general vogue. When I was a school-boy history was taught by some form master, whose interest was in Latin and Greek and who had to drag us through an unhappy hour or two a week of English or Greek or Roman history, as the case might be. Since that time a change has come over the schools; now teachers are appointed in the great English schools because they have made a special study of history during their university career, because they have an enthusiasm for the study and because they are therefore well fitted to teach it. History, which when I was a school-boy, was the most unpopular of all the subjects taught, has now become the most interesting of all. The classes in history are now looked forward to by the boys because they are taught by instructors in history who have had a special training and who have a special enthusiasm for historical work. I presume it is somewhat a counsel of perfection to expect that the schools of this country will suddenly see the importance of establishing a specialist teacher, for the purpose of superintending if not actually teaching history to all the different classes in a school, a man who has been trained in a university where historical study has been made a special feature of the curriculum. When that time comes, when all the high schools and preparatory schools and secondary schools recognize that they should have a history professor just as much as a science professor, and that history should be recognized as a subject no longer to be taught by the weary teacher of other subjects, but by an enthusiastic specialist, then will the type of history teaching improve and then will the history professors at the universities rejoice that they can build upon soundly laid foundations. Now what is it that we of the university teachers desire from the teachers of the schools? We desire that students should come to us whose minds have been trained to reflect, whose minds have been trained to work, and whose minds have been accustomed to the comparison of ideas. We do not want a mere crammed infant

of mature years to come and listen to our lectures [Applause] and the more we can find rational scientific teaching in the schools, the more able we shall be—we hope at least—to give teaching that may be worth something to university students, teaching that may help them to understand the vast importance of the study of history and that may enable them to practice a more enlightened citizenship and to understand more clearly the great problems that have faced man in the past and that must face him in the future. [Applause.]

Discussion of Professor H. Morse Stephens' Paper, "Shall Historical Studies be a Necessary Part of College Entrance Requirements?"

Professor John B. McMaster,
University of Pennsylvania.

Mr. President, Ladies and Gentlemen: You will recollect, I am sure, that when Alice in Wonderland got out of the pool of tears with her companion they were at a loss to know wherewith to dry themselves; until suddenly, the Dodo remarked that the driest thing he knew of was history [laughter], and immediately proceeded to read extracts from a standard work on European history. I think he was wise in choosing European history instead of United States history; and as Professor Stephens has disposed of the dry (or European) history, I am sure you will bear with me for a few minutes while I speak of the more interesting (or United States) history. In discussing this question, whether United States history ought to have a place in any system of entrance examinations, I have the pleasure, again, to stand on Professor Stephens' ground and to say it ought not. In any such discussion the question which first meets us is, What is the object of an entrance examination? Is it held in order that the knowledge of the candidate for admission may be tested—that we may find out, for instance, how much he really knows of the subject? Or is it held in order that, by a series of carefully selected tests, the examiners may form an opinion as to the general intelligence of the candidate, and decide whether he has reached such a stage of mental maturity that he can in justice to himself and his parents, go on with the higher education? If a study is to be continued directly after college admission,

it would then be fair to test him on the basis of his knowledge of the subject in order to see that he is fit to go on with it. If it is not to be continued immediately but becomes an elective in the later years, an examination is a waste of time. Applying these principles to the question in hand, I can see no reason for making the history of the United States a subject of entrance examination. In the first place, the mechanical appliances for teaching it, the text-books, do not afford a knowledge of our history. If you consult the five school histories whose sale has been so large as to justify me in saying that they are the leaders of their kind, you will find that the one thing for which they are conspicuous is the absence of United States history, and the over-abundance of history of the English colonies in America. One of these books contains 412 pages, out of which 176 are occupied with colonial events down to the opening of the War of Independence, which occupies 71 pages. More than half the book is devoted to history prior to the Constitution. The history which began with 1783 and comes down to date, which is unquestionably the history of the nineteenth century, on this side of the water anyway, occupies 105 pages, or 70 pages less than the history of the English colonies. The Civil War, or rather accounts of its battles, take 40 pages; the history of the country since the Civil War (which is the most momentous part of our history) is all summed up in 19 pages. [Laughter.] Another one with 410 pages, and it is the best of the lot, gives 99 pages to colonial history: 32 to the Revolutionary War and 146 to the period closing with Lincoln's inauguration. Then comes the Civil War, 53 pages, and the period since the Civil War, 80 pages. Another one has 412 pages, of which 96 pages are devoted to colonial history; 39 to the Revolution; 159 to the period after the Revolution, 70 to the Civil War, and 39 since. In other words, there is no school-book in which the history of the English colonies is not the most important thing. Now as small knowledge of the history of the United States can be obtained from the school-book, it is impossible to comply with the first condition that an entrance examination should be held for the purpose of finding out what the boy knows; because he knows nothing—cannot know. Turning to our second condition we may ask, has an examination in United States history any place in a series of tests? Again the answer is no, because such examinations cannot be fair

to all who undergo them. Any examination, to be a test, should be made with the understanding that the result ought to be proportional to the expenditure; and a very little experience in examinations shows that the most carefully planned cannot be a fair and honest one, because of the physical condition of the boys that come to be examined. A boy who has great power of cramming—a ready and for the time being, a retentive memory—has an advantage over others. A boy who is a ready writer can cover more ground in the time than another boy who is not as ready; and the boy who is of a nervous constitution in nine cases out of ten will go to pieces. Any system of examination that gives a bonus to the lad who has nerve and to the boy who has memory, is of little value and must be considered accordingly. Nevertheless, there must be some entrance examination. Universities have tried the certificate plan and found it worse than the examination; therefore, we have gone back to the theory that nothing ought to be put into an entrance examination which will not produce a result. The result gained from American history as at present taught, with the mechanical appliances and facilities at the command of the school teacher, is not worth it. It is a great deal better to have the boy come with his mind a blank on the subject of history than to spend time eradicating the evils which Mr. Coffin and Mr. Abbott have done. From the experience here I think the place of American history is not in the entrance examination schedule. There ought to be a book so written that the boy never going to college could get sufficient idea of American history to understand the questions which he is to deal with at the present day, and let Pocahontas and the rest go. [Laughter.]

Discussion of Professor H. Morse Stephens' Paper, "Shall Historical Studies be a Necessary Part of College Entrance Requirements?"

Professor Lucy M. Salmon,
Vassar College.

Educators to-day owe two services to the cause of education —the enriching of the curriculum of the secondary and of the elementary schools, and the unification of the educational system. The enriching of the college curriculum has been satisfactorily accomplished through the introduction of the

elective system of studies, but while much has been done to relieve the dreary waste of the old-time grammar, arithmetic and geography of the lower grades, much more yet remains to be done. Something, too, has been accomplished in unifying the educational system. But the colleges as a rule recognize as yet but one of what must be the four aims of education in the great majority of secondary schools—to prepare for college, for active business, for teaching in the elementary schools and for home life. The work of the college is partially united with that of the secondary school through the college preparatory courses, but the work of the secondary school must be disjointed as long as it must arrange its courses not only with reference to preparation for college along certain lines prescribed by the college without consultation with it, but also to suit the necessities of those who constitute by far the largest proportion of its members—those preparing to teach, to go into active business and for home life.

How the work of the secondary schools can be made more helpful to those who do not go to college, how the college preparatory course can be made available for those who late in their high school course decide in favor of college education, how the college preparatory course can be made more fruitful and suggestive than it now is, how it can be made a better preparation for college work, how the courses in the secondary schools can be unified with reference to each other and to the requirements of the colleges—these are all questions that grow out of the fundamental one, Should history be required for entrance to college? An affirmative answer to the question may be assumed, since fifty-six of the sixty colleges and universities, whose entrance requirements were examined by the Committee of the National Educational Association, make a positive requirement in history, three an optional requirement and but one—Princeton—makes no requirement. The question, therefore, may be restated in the form, What history should be required for entrance to college?

An answer to this question must be preceded by another, Is the present requirement in history satisfactory? This requirement, an examination of the tabulated returns of the sixty institutions investigated, shows to be Greek and Roman history in the case of forty-five colleges,* and American history in forty-two colleges.† Does this requirement meet the needs of

* Thirty-six make a positive requirement, nine an optional requirement.
† Thirty-four make a positive and eight an optional requirement.

those in the secondary schools not preparing for college and of those who make a late decision in favor of college training; does it meet the needs of the colleges? The questions must, we believe, be answered in the negative—the present requirement is not the ideal one from the standpoint of either the school or the college. It is unsatisfactory because it rests on neither a logical, chronological, nor psychological basis. The natural sequence both of time and of events is violated, since American history is usually studied in the grammar grade, preceding the Greek and Roman history of the high school. The requirement lacks in unity and in organic connection between the parts, and the term Dark Ages fitly characterizes the knowledge that most pupils have of the period intervening between the establishment of the Roman Empire and the discovery of America. The requirement is purely arbitrary and has been made as a matter of convenience, or through accident, or because it is customary, not as a result of careful study of the needs of pupils in the secondary school. Since it fails to take into account the needs of these pupils, both of those who are preparing for college and those who are not, it must be said to hinder rather than to help the co-ordination of the different parts of the educational system.

These and other objections may be raised to the present requirement as a whole. But the specific parts of it are also open to criticism. Greek and Roman history are often made subsidiary to the Greek and Latin languages. This implies that they are often taught by those whose chief interests have been in other directions, and therefore that they are taught, not *con amore*, but as a necessary adjunct to other work. The result is often a mechanical, spiritless presentation of the subject. But even when Greek and Roman history are well taught, the history is but fragmentary and necessarily incomplete. Greek and Roman history are but parts, important it is true, but still only parts, of the history of the world. To emphasize these to the exclusion of others, is to give a distorted view of the historical movements.

The same arguments prevail against the specific requirement of American history. It is usually taught in the grammar grades, often by incompetent teachers, the only results of whose work are seen in a prejudice against American history on the part of the grammar grade pupils that is with difficulty eradicated later in their course. Another objection is the inherent impossibility of understanding American history without a

basis of European history. The result of the attempt must be failure and the result of the failure is narrowness, ignorance, a lack of intellectual hospitality towards new ideas coming from other countries. We protest against the provincialism of other nationalities, yet give constant encouragement to it among ourselves when we begin and end our study of history with that of our own country. Its requirement also seems unreasonable because the assumption is made, by its presence in the grammar grades, that American history is by nature simple and easily comprehended. Yet our history has been rendered most complex by virtue of our cosmopolitan origin. The knowledge of it must be a sealed book to one who does not understand the reasons for the decline of the Spanish power, the civil and religious wars of France, the Parliamentary conflicts during the time of the first two Stuarts, and the revolutionary movements of 1848. All of the forces that operated to produce these results in Europe have affected our own history and added to its complex character, have placed it rather at the acme than at the beginning of historical study.

If these and other reasons render unsatisfactory the present requirement in history, considered both generally and specifically, the question naturally arises, What is needed as an entrance requirement in history? It should be first one that will meet the needs of the large numbers in the secondary schools who can never go to college, that will also meet the needs of those who decide on a college course late in their high school course, and that will again meet the necessities of those whose entire course from the kindergarten up has been planned with reference to a college education. The fundamental problem is to unify the courses of the secondary schools with reference to each other and to the college courses. It should be the aim of the secondary school to encourage its pupils to go to college; it should be the aim of the college to make it easy as possible for large numbers to go to college, not by lowering its standards or by shortening its course, but by putting itself into absolute harmony of relationship with the secondary school.

These various needs will be best served, some of us believe, by an entrance requirement in general history. The study of general history, beginning with biography and passing through the successive stages of narrative and comparative history, follows the natural development of historical writing. It seems, therefore, a rational development of the study. It gives an

idea of the correlated whole without which there can be no correct idea of the isolated parts. It rightly assumes that this bird's-eye view of the whole must precede a detailed study of the individual countries. It prevents provincialism, sectionalism, and national selfishness. It recognizes the unity of history and prevents the distorted, exaggerated conception that is inevitable when the subject is studied in piecemeal fashion. It gives the basis of a general outline on which the special courses of the college curriculum can be built up. In the secondary schools it best correlates the work of the two classes of pupils —those who intend to go to college and those who do not. In all small high schools, and these contain the largest part of the pupils in the secondary schools, these two must work together. To teach only Greek and Roman, or English and American history, to pupils who can never supplement this work by a broader study of history, is to give them warped and narrow conceptions of the great movements of the past. Every step taken toward correlating the work of parallel high school courses is a step taken toward correlating the work of the high school and the college.

That this view does not seem wholly unreasonable to all colleges is seen again from a study of the entrance requirements of the sixty colleges examined. In thirty per cent of these, general history is required for entrance to the B. A. course, * in thirty-nine per cent of those having a B. S. course, † and in fifty-six per cent of those having a Ph. B. course. ‡

It is interesting to note that a large proportion of these institutions are state universities. § This may be considered one

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* Eleven make a positive, seven an optional requirement.

† Fifteen make a positive, three an optional requirement. Forty-six colleges have this course.

‡ Ten make a positive, four an optional requirement. Twenty-five colleges have this course.

§ This will be seen by the following table :—

Institution.	Requirement.					
	B. A.		Ph. B.		B. S.	
	Positive.	Optional.	Positive.	Optional.	Positive.	Optional.
State Universities, ...	6	4	4	1	8	2
Private Colleges, ...	5	3	6	3	5	3
Total, . . .	11	7	10	4	13	5

indication of the fact that those states in which a state university is the head of the educational system have their entrance requirements more carefully planned with reference to the needs of the schools than is the case in those states where schools and colleges often follow the tangents of their own inclinations. That it is possible from the side of the school is evident from at least one fact. Last year more than one-fourth of the high schools and academies in New York State took the Regents' examinations in general history,* although Rochester University is apparently the only institution in the State including general history in its entrance requirements.

Many believe that the requirements of general history for entrance to college would do more than the requirement of any other form of history to enrich the curriculum of the elementary and of the secondary school, to unify the present parallel courses of the high school, and to give a basis on which special college courses could best be given. They see in the fact that this requirement is now made by so many colleges a proof that their theory has been successfully put into operation, and notwithstanding a recommendation looking toward a different requirement made by the New England Association of Colleges and Preparatory Schools and the Columbia College Conference, they hope that the Association of the Colleges and Preparatory Schools in the Middle States and Maryland will give the weight of its recommendation to a requirement in general history.

The Worth of High School Science Studies as a Part of the Preparation for College.

Professor Ira Remsen,
The Johns Hopkins University.

Mr. President, Ladies and Gentlemen: The question before us is this: Is the study of science in the high schools valuable from an educational point of view? If it is, then I suppose it follows that it is valuable as a part of the work of preparation for college, so that the question is rather broader than suggested by the title which you have before you. Is the study of science desirable or of value as a part of the work of preparation for college; or is it desirable or of value from an

* The total number of academies and high schools under the supervision of the Regents last year was 554; of these, 146 took the examination in general history.

educational point of view? That question falls naturally into two parts: First, are such studies of value in themselves; and second, are such studies as they are actually pursued in the high schools of value?

The first question is hardly an open one: I have supposed that that question was answered—that is to say, that it is acknowledged that some study of the kind which we call scientific study is desirable. I will not weary you by calling your attention to the arguments that have been brought forward in favor of this view. I feel, however, that it is necessary to arrest your attention to a few points, before passing on to the second part of the inquiry, which I take to be the more important for our purpose. It is often stated—I may say generally stated so far as I have followed the matter—that the object to be gained by the study of science in high schools is the cultivation of the powers of observation. Well, that is not all, of course; though it is commonly put first; but that it cannot be all is perfectly clear to any one who thinks for a moment. It is important, but it is not the final product of that kind of study. If it were, we should find in the savage as good an example of the result of that kind of teaching as we shall find anywhere; for in the savage the powers of observation are developed to a very remarkable extent; but it is not exactly that state of mind that we are after: we want something besides the power of observation; we want the power to reason upon the results of the observation. We want even more than that; for in a sense the savage has that power. Perhaps we do not call it reason; but that which we call instinct is very difficult to differentiate from rapid reasoning, and certainly the savage observes acutely, and he reasons rapidly, and draws conclusions which are of very great value to him under the circumstances under which he is placed. These attributes of the savage are desirable for every one; but even these, if developed to the fullest extent, would hardly give us that result which we desire to secure. I have thought of this subject a good deal, and I scarcely know how to put the result of my thinking. It seems to me, however, that what we want as a result of any kind of study, but more especially what we expect to get as a result of the study of science, is the development of what I should call—what is commonly called—a scientific habit of mind—an attitude of the mind toward problems in general that leads the person involved to take the most direct and the simplest method of solving the problem that he has to deal

with, whatever that may be. When any one makes use of a method of that kind he is using the scientific method. He discriminates between the various kinds of evidence presented to him; but he is more especially concerned in getting direct evidence bearing upon the subject which he has in hand—not indulging to too great an extent in speculation upon these subjects, but going straight to the phenomena, or the things, if they are things, that he is dealing with, and letting his thoughts be guided by them; working from without inward, rather than from within outward; recognizing that in himself, that so far as his own mental powers are concerned, he is not capable of solving the problems of the universe; that he must get outside of himself and study the phenomena, the facts, the things that he is talking or thinking about. That, I take it, is the scientific attitude of mind; and that is the state of mind which I think everybody acknowledges is wholly desirable and not often met with, even among scientific men, of whom I make no exception. That is the ideal; and anything that will help students, young or old, to get nearer that ideal condition of mind is desirable.

Now the question is whether these science studies have this tendency: if they have, then they are of value. I think we shall all admit that without hesitation. It is interesting in this connection to give a very rapid sketch, in a few words, of the development of the mental attitude of mankind, and to draw a moral from the lesson which is afforded by such consideration. I suppose I don't know anything about this subject, and therefore I ought not to say anything about it; because I am at present advocating the scientific method. I will try as far as possible not to shock you by wild speculations. Judging by what I have observed, I suppose the first tendency possessed by human beings is to observe intensely, acutely. Certainly we see that in children—it is a most marked trait in them. I suppose the early members of the human race had that tendency. They must have learned a great deal in regard to the things around them during the earliest periods, but there came a time when some one got the idea that the proper method of dealing with the great problems of the universe was by thought; and then man passed through a long period in which there was a good deal more thinking than working. There was a good deal more thinking than observation. Of course observations had been made and they were in possession of this new school; but during that period—it was a long one from which we are

just awakening—it was after all the thinking, the speculating, the philosophizing—to use a term for which I have great respect (I have no intention of being disrespectful to any one or anything this morning)—I say during that period it was this speculative tendency that characterized the thought of man. Of course, I do not know much about this subject (you know that perfectly well), but I have followed it to some extent, and I know that chemistry furnishes abundant evidence that those were the tendencies:—first, observation, taking in everything that came to hand, remembering as much of it as possible, through the long period of speculation; then speculation run wild—getting away from the things in regard to which the speculation was carried on and endeavoring to do the rest by sitting down and thinking. During that period things got mixed up. There were very valuable theories from which we are yet suffering [Laughter]; speculations that far surpassed those of the present age—intensely interesting as speculations; but they did not carry us much nearer to the solution of the problems to which they had reference. And it was only after men began to see that that was not the way to go to work, that it was necessary to deal directly with the things themselves in order to get the information desired; it was only when that stage was reached that progress began, and what we call the scientific age began. We are in that now; and that is the lesson that mankind has learned: it passed through the early stage as the child passes through, observing intently with all its power, making crude use of the observations—perhaps as good use as possible—probably as good use as possible under the circumstances: then came the period of study and thought and reading and discussion, and the things were forgotten. The child goes through those periods. Up to the time it goes to school it is an acute observer; every one who knows anything about children knows that; their minds work in a rational way—with reference to the problems of nature even—up to a certain point. Of course their minds are not developed and they cannot go very far; but I have noticed that the working of the mind is fairly satisfactory. You ask a question and you get a sensible answer from children who have had no training. Now let them go to school; and in the course of a few years, I fear, we shall note that a change comes over them. Now ask the child a question in regard to something which he can learn by direct observation, and, if I am not very much mistaken, in most cases you will get an answer that smacks of the book, and

that has very little reference to the thing asked about. I have had that experience in rather a striking way. I remember, some years ago, asking a small boy, when he was very young, before he had gone to school, what evidence—and I asked the question because I had asked that question of a mature student that same day (the student could not answer it); I asked this question: "Have you any reason for thinking that the air has anything to do with fire?" This boy (who was not a remarkable boy by any means,—an average boy—but he had his wits about him) said: "Yes, I think I know one reason." "What is it?" "If you cover it up, it will go out." I asked the same boy the same question ten years after this and he said: "Let me see; I don't think we have had that yet." [Applause and laughter.] Now that is not an exaggeration. I have asked questions of that kind of students over and over again (I am rather in the habit of asking questions of that kind), and I have been appalled by the character of the answers given. I must tell you another story. I once asked a new student, who said he knew something about chemistry, how much he knew. "Well," he said, "that is not for me to judge, but I suppose I know quite a good deal." I thought I would ask something of the most elementary character. I said to him, "What is nitric acid?" "Nitric acid?" "Yes, nitric acid." "Why! as nearly as I can remember, nitric acid is a compound of hydroxyl with the radical NO_2." "Does that mean anything to you?" I asked. "I always supposed it did; but now that you ask the question I don't know that it does." I was perhaps a little cruel and said, "It doesn't mean anything to me. Do you know anything about the *thing*, nitric acid? Did you ever see it? What does it look like?" "I am sure that we had that in the laboratory, but I got it mixed up with other things." "Do you know whether it is a solid, a liquid, or a gas?" "I think it is a solid." "Is that all you know about nitric acid?" "Yes, it is really all I know." "And you studied chemistry for three years?" "Yes." Then I asked him the question about combustion, and he could not give me any answer whatever: his air was most embarrassed and I think he went away depressed.

I have consulted a good many people within the last two or three weeks, since I accepted the invitation to speak before you this morning. Among the best answers I got to certain questions I propounded was one from a bright superintendent of schools. I will read a passage from it. In answer to a question

as to the educational value of science studies in the high schools he says: "The most valuable of our studies. Our public school courses of instruction have a superabundance of memory work. Pupils become so accustomed to quoting the results as given in books, and teachers are so much in the habit of accepting, without question, recitations, that the perceptive faculties of our children are not developed as they should be. Before the child enters school he is in close touch with nature. After the teacher—the average teacher—once gets him, the poor boy has lost all closeness of communion with mother earth; the relationship is changed; she becomes his grandmother. [Laughter.] He hears of her directly or indirectly what other people know or say about her. The proper kind of instruction in natural sciences ought to keep the boy in close touch with nature, and develop the faculties so much connected with the success of the future man."

That is the first point that I would arrest attention to, as to the need, or desirability of this kind of study. I will not go over that familiar ground of contrasting or comparing methods used in the different kinds of study; at the same time I will ask you to recall certain differences between the study of languages, for example, and the kind of study which I am speaking of; the study of mathematics in which, although the reasoning powers have an opportunity that is unequaled in any other line, yet it has this feature, that it deals with symbols and not with things directly, as a rule; and so in regard to other studies, differences might be indicated which I speak of not as showing inferiority but to show that there is a difference between the kinds of study that students carry on for the most part, and that kind of study which we call science study. No one denies the great value of these other studies that I have mentioned, and of the other kinds of study that are included in the school courses; but it should not be forgotten that science study is also of value. It is not a question of simply being courteous to it or friendly to it, but of recognizing that it is an important and essential part of the training of every student who is to acquire a proper state of mind with reference to the world in which he lives. I would add to the reasons mentioned another, which seems to me not to be the least important, and that is that the study of nature is capable of awakening an interest in outside things, and adding to the pleasure of life from one end to the other. I am sure that any one who has ever studied science, even in an elementary way,

and has any taste for nature, has felt that it has been a great addition to his resources; and I suppose that one object of all kinds of study—no matter in what stage one may be studying—I suppose that one object of studying is to give us those internal resources that enable us to pass through this world in a somewhat more satisfactory and pleasant way than usual.

I have indicated what I have in mind in speaking of the scientific method. There is no question as to the fact that the introduction of this method has revolutionized modern thought. A reference to this matter was made in the admirable address that preceded mine. It was pointed out that the methods of historical investigation is the scientific method. I am often thrown together with a distinguished philologian, who is known to all of you by name. He has frequently said to me: "We philologians are evidently using the same method that you scientific men use." Those great ideas that we hear of at every turn have taken possession of the thinking powers of man. No one can calculate the enormous value—from a labor-saving point of view if from no other—the enormous value of those great generalizations that are household words with us. The conception of the conservation of mass supports us, and limits our speculations. The other twin conception of the conservation of energy is perhaps of still greater value. It is operating and will operate in the same way upon the thinking and the labors of man. And if we pass to that other great generalization, evolution, that also has entered into the methods and thoughts of those who are dealing with problems in every line. My latest information upon that subject came from a distinguished political economist. In the course of conversation with him, he said that that one idea, when he once grasped its significance in his early days, had done more for him than any other one idea that he had ever become familiar with; that it guided all his thinking upon the subject of economics. And so it is, I suppose, in many other subjects. These and similar generalizations help us in ways that we are not aware of. They give us a foundation for thought; and they also head off thought in certain directions as it should be headed off very frequently.

The scientific method, then, is more or less well known; and it has been supposed that the results are desirable and that they are helping us in many ways. I recently heard an address, which some of you present no doubt heard, in which there was some reflection cast upon the scientific method; and there was

an intimation that the effects of the introduction of this scientific method had been somewhat disastrous. As it was put on that occasion, there is issuing from every laboratory a noxious gas not found within the laboratory; and the inhalation of this gas has produced withering effects upon those without. That is possible. I am speaking of the scientific method as it is carried on in the laboratory—not of the effects upon those who do not comprehend it. I know nothing of this directly. I hope to get more light upon the effect of this noxious gas that issues from laboratories. I think the speaker on that occasion meant nothing that was disrespectful to the scientific method. There is, I suppose, something that is masquerading under the general name of scientific method and is doing harm. I have seen it. In some cases I have seen the study of literature taken up in what was supposed to be a scientific way, and the result was that all the spirit was taken out of it and nothing left but a mass of dry bones. That is not the scientific method; that is somebody's idea of the scientific method; and it is a wrong idea. I merely refer to this in passing, because the subject has recently been discussed.

The second question suggested at the beginning is this: Are the scientific studies, as carried on in the high schools, of value from an educational point of view? Now, ladies and gentlemen, it is perfectly clear that I am not a competent person to answer that. I have never worked in the high school; I have never made a careful study of their methods. What I know has come to me indirectly. I have not made those direct observations, those careful studies, which are essential in order that one may be in a position to express an opinion of value—an intelligent opinion—on the subject. I might stop here and tell you that I don't know; and yet, I cannot disregard certain kinds of evidence that come to me, though that evidence is not direct. When this subject was proposed to me, this difficulty occurred to me at once; and I believe in my first reply to the secretary, I referred to that as a fundamental difficulty that I should encounter in endeavoring to deal with the subject. I added, later, that I might possibly be able to say something that would be suggestive, and that would turn the attention of those actually engaged in the work toward certain important phases of the inquiry. I adopted this method of procedure: Two or three weeks ago I called together all the graduate students in the Johns Hopkins University who have ever studied science in high schools, or taught science in high schools; and

I placed before them the problem that I had to deal with and asked for their assistance. I asked each one to answer a few questions that seemed to me likely to bring out the kind of information that I wanted. I will not go over them. I received a comparatively large number of answers, and several of those who were present at the meeting undertook to get further light from friends of theirs who were engaged in similar work. So that when I finally came to face the problem of preparing for this emergency, I had before me a number of written statements bearing upon the points which I wished to discuss. I do not intend to read one of these to you. Not that I do not value them; but you would be wearied, I am sure, if I should go over them; and the impression left upon your minds would be a confused one. Out of it all I think the most valuable impression that I gained was this, that even in courses that are far from perfect, and perhaps receive only harsh criticism from some, there are often redeeming features; and that it is well to take into consideration these redeeming features, rather than to emphasize alone those features which are objectionable. I learned a good many interesting things in regard to the way courses are carried on in different places; but here again I am afraid that, if I should direct attention to those points, a false impression would be left upon your minds in regard to the value of the work. I might tell you of a course in which all the experimenting is done on the military plan. I was told this by one of the students, who had been through the course. He described it in picturesque language I wish I could repeat. He said: "We were all asked to stand in a row; each one was given a test-tube and a bottle (holding the stopper in the left hand). The teacher then said: 'When I say pour—pour! [Laughter.] Result—precipitate. Color—yellow. Next experiment.'" [Laughter.] That is science. [Laughter.] That goes on from one end of the year to the other in that course; and if I left the subject there, you would say "that ought to be eradicated—it is worth nothing; it is worth less than nothing;" and yet the very student who told me that story was a good student, and he had come out of that course with a love of nature, and with a fairly well trained mind. He had got something out of it that it did not seem to have in it; and I have had a number of other students who have taken that same course, that have given evidence of effects produced by training that are highly desirable. It was not perfect—far from it; but I have seen other courses—not in scientific subjects—that were not

perfect [Laughter], and a good many of them, so that for that reason, of course, the method is not to be condemned. My own experience is worth something in that connection. I did not study in a high school, to be sure; but I studied under conditions that were comparable to those we have in mind in speaking of the high school method. I was given a book to read, and told to read it; and at stated intervals I was examined upon what I had read. I was never shown a single substance about which I read, nor a single phenomenon—not a single experiment. The work was extremely distasteful to me. I never did any work less attractive to me than that; and more than that, I cannot say that I learned anything except that chemistry was a most uninteresting subject. I remember one day my teacher came into the room and said to me: "What are you reading about now?" It happened to be saltpetre. I said, "It is saltpetre." "Ah!" he said, "yes, saltpetre; that is nitrate of potash." "Yes," I said, "I have noticed that in the book." "Yes my son; now there is another thing you must know about it. It is KO. NO_5. That is saltpetre." That was a revelation to me; but it was interesting, certainly—it was interesting as a revelation, but saltpetre was most uninteresting to me after that bit of information in regard to it.

I had a desire in some way to get to know something directly of the things of which I was reading; and one day I was reading about the action of nitric acid upon copper. Copper was familiar to me, but nitric acid wasn't, any more than it was to the student to whom I alluded earlier in my remarks; but I looked along the row of bottles in the room, and I found one labeled nitric acid. I had an old-fashioned copper cent in my pocket, and the book said nitric acid would act upon copper. I put the cent down on the table and poured the nitric acid on it. [Laughter.] It did act, and acted most vigorously; for by some ill fortune or good fortune the acid happened to be concentrated nitric acid. The room became filled with the well-known reddish-brown vapors that are so disagreeable. I knew nothing of those. I found out. I found this thing fuming and turning green and doing all sorts of things, and I did not know what to do next. There was an old slop jar there, and I took my hand and threw the cent and the liquid into the slop jar. I knew more of chemistry after that. That was my first lesson in the value of experiment; and from that time I have, almost without interruption, pursued the study of chemistry. From being something that was far off and mysterious

and without interest, it became the most fascinating subject I ever had to deal with. That action of those two things upon each other—that was my introduction to the study of chemistry.

I should say then, in general, that many of the courses in science—the science studies as we call them—as carried on in the high schools, so far as I can get information, must be very unsatisfactory if judged by the highest standard. I am sure of it. And yet, as I said a moment since, that is not sufficient to condemn them; there may be redeeming features; and there generally are some. That is the thought that has impressed itself upon my mind by these written statements from my young friends, and from a few superintendents who were kind enough to write in reply to my inquiries. That is a thought to be kept in mind: don't let us condemn these things absolutely because they are not perfect—even because they are very bad; for it is not the fault of the subject: the difficulty is in the way they are presented. That sort of work—bad work—can be done in every department. We have all seen it. We need only recall the way in which history is sometimes taught: in some cases the student is called upon to recite the exact words of the book and is corrected if he makes the slightest deviation from that book. In one case known to me, the most frequent remark made by the professor by way of enlivening the subject was "The words of the book are good enough for me." That was all. There was never anything that raised that exercise above the lowest level except that cheering remark. [Laughter.]

As regards languages, I hope you don't all think that every language course is perfect. I have come in contact with that indirectly, to be sure; but I have learned to know some language courses in a way that has stirred me up. I have reached this conclusion in regard to some language courses: that they are open to criticism, as well as some scientific courses. I have no doubt that, generally speaking, science courses are more open to criticism than language courses; but I know of one class-room very well, in which I am certain that the principal result gained (if it was a gain) each day was the wrong way to use English. This was a course in Latin. The boys were forced to use bad English and the worst kind of English—the most barbarous English; because it was necessary to know whether the boys had translated the Latin correctly, and you can tell this by noticing how bad the English is in which he puts his translation. [Laughter.] That course and other courses really amounted to this: they were daily lessons in bad

English; and in some cases I can trace the bad English of the victims to those daily exercises in two or three languages in which bad English was used. I mention them—not, as I say, to condemn language studies; for I have the very highest respect for all studies of that kind;—I merely say that there are courses in every subject—history, language, or anything else—which can be criticised as severely as you can criticise the worst science courses of which you have ever heard. That is not a reason, however, for condemning these subjects as a whole. They are of value, of course; and the courses in science are of value; and that is the thought with which I would leave this part of the subject.

If these subjects are taught in an unsatisfactory way, why is it? There you come upon a broad question; and you can use only common-places in answering the question. I have often thought that perhaps the principal reason why the results reached by these courses in science are so unsatisfactory is to be found in the very limited amount of time given to them. Suppose we reverse matters. Suppose those who are advocating science studies were in possession of the field; suppose those were the dominating studies; and the language people—our friends—were saying to us, "Let us show you what can be done by the study of Latin or Greek;" and we should say, "Very well; we will give you one year for Latin and one year for Greek: now see what you can do." What do you suppose would be the result of that? That is ridiculous; and yet I do not see that it is more ridiculous than the present state of things with regard to science studies, as I am firmly convinced that it is just as difficult to learn the science method—to study scientific phenomena—as it is to become familiar with any language; and yet we give the teachers of science a year of chemistry, perhaps, a year of physics; and the results not being entirely satisfactory we say there is something wrong with those subjects. Now I ask you again to bear in mind this possible turning of the tables. I do not believe it will ever come about. The tendency is toward equalizing the distribution of time devoted to different kinds of study. The picture is a perfectly fair one as regards the present relation of science studies in the high schools; and no wonder, therefore, that the results are not satisfactory. How much Latin has a child ever learned in one year? How much physics? How much science? Very little; and yet I would not take away that glimpse of the subject. They need that glimpse, at least; and I do not fear, I do not concede, that there is any thought

of taking that away. But in order that we may be in a better position to determine the reason or to think upon the subject as to the cause of the bad effects reached in this kind of study, I throw that thought out; and it is certainly a perfectly fair one.

As regards the other reasons, they are familiar. There is the lack of training of the teachers: they have not had the opportunity; it is not their fault; in a way many of them are excellent. I am speaking, in general, of the great army of teachers who are teaching the best they know how these scientific subjects in the high schools. Their training has not been as thorough in comparison with that which those receive who teach the languages. As I am informed, the training received by these teachers is generally that which they have obtained in a college course; and the college courses are necessarily brief—have always necessarily been brief; so that if we compare the amount of time which teachers spend upon language studies, by way of preparation for their work, with the amount of time spent by teachers of science subjects, as preparation for their work, you will see one very good reason why the work done by those teachers, and consequently by their classes, cannot be as satisfactory as the work done by those in other studies. Then, too, in order to make these courses in science satisfactory, it is necessary that the teacher should spend more time with the pupils than in other lines of work. Direct contact in the laboratory is absolutely essential. This giving a laboratory-guide to the student, turning him loose, and seeing him again after it is all over, and noting the result, is only a very unsatisfactory method of accomplishing—it cannot accomplish—what should be accomplished by such courses; though I fear that is a method which is coming into vogue. These courses require the constant attention of the teachers; and they will never succeed until the teachers learn that, and until those who employ the teachers, and have to do with them recognize that it is necessary. They cannot take up their subjects in the same way as those who are teaching languages—hearing so many recitations and calling that the end. Then of course there is the lack of means and a good many other things we are all familiar with. I need not dwell on these. It requires but a moment's reflection to see that there are a good many reasons why these courses are unsatisfactory, as they are in many cases. There are good reasons for it; and we should direct our attention rather to the reasons for this unsatisfactory condition of things than to the unsatisfactory condition itself.

Finally, as regards remedies—I was not asked to propose remedies—we are discussing those constantly. They have been under discussion for many years, and progress is being made every year; and all that I would emphasize—the main point I would make in this connection is, let the good work go on: do not do anything to check it; recognize that it is not an experiment in itself—not a question as to whether this kind of study is or is not desirable: we know it is. It is a question as to whether the methods actually in use shall be improved and the work shall be encouraged. This is being done in every direction constantly; and we should continue it. The directions in which improvement is most loudly called for, it seems to me are these. In the first place these courses should consist of more work and less talk—it is the work—it is the experimental work in the laboratory that will tell; and the talk should be kept subordinate. Then the courses should be less theoretical, to use the expression that is commonly used in such connections—there should be less speculation in regard to these matters. These high theories which the chemist deals with very tenderly, and of which he recognizes the importance, are too difficult for those who are just beginning the study. In this connection let me enter my protest against the importance assigned to fundamental theories of chemistry in the elementary courses in chemistry. The atomic theory is a very valuable one for those who know what it is, but to begin the study of chemistry, with those who know nothing whatever of the phenomena to be dealt with, by explaining the atomic theory and showing what deductions can be drawn if that theory is correct, is not a scientific method. I repeat we must have more work and less talk. That is the point to which I should call special attention as the principal remedy that is needed. The students should be kept in contact with the things. That should be emphasized. Get the book in the background and the things forward. Let the pupils study these—let them treat mother earth as a mother and not as a grandmother—a very good phrase. Then there is another difficulty which is met with in these courses, and especially in those places in which the very best results might be looked for; and that is the tendency to introduce into the schools college courses or university courses—treating the subjects for the high school pupils in the same way, in general, as they are treated for more advanced students—dealing with the highest phases of the subject and giving the pupils very much more than they can

digest because college students digest it to some extent, and university students, perhaps, to a somewhat greater extent; though even here the powers of digestion are not perfect. I would call for a simplifying of these courses and for a closer relationship between the studies taught and the phenomena which are the subject of study. We must remember that the main object of this kind of teaching is not that the student should receive a certain amount of information in regard to things external to him; but that he should learn a method of dealing with problems in general that will make him a more satisfactory person to question in regard to things that are going on about him, and will give him a clearer view of the universe. [Applause.]

Discussion of Professor Ira Remsen's Paper, "High School Science Studies as a Part of the Preparation for College."

Professor George F. Barker,
University of Pennsylvania.

Mr. President, Ladies and Gentlemen: I am very sorry, and I know you are, that Professor Remsen did not continue through my ten minutes in that delightful address which he has given us, full of suggestive thought on this very important subject. I presume that I have been asked to speak simply as representing another institution of the college type. Let me say at the outset that in this country we seem to be doubtful as to what the term "college" means. Last summer in London I asked several distinguished scientific men what the English idea of a college was; and they replied that in general, a college was considered to be an instructing body; while a university was a degree-conferring one. Now, as it happened, two of these gentlemen were professors in University College; so that here the university function and the college function existed side by side in the same institution. I said the other day to an English professor, "What is your conception of the university idea in America?" "Oh!" he said, "I suppose that in America the 'university' is a degree-conferring institution." "But," I replied, "you have yourself only just escaped getting the degree of Doctor of Laws, which Princeton has so gracefully conferred upon you, while Princeton was yet a college and before it became a university."

The subject before us is the desirability of high school science studies as a preparation for college; and defining a "college," to be an institution conferring the bachelor's degree, I cannot add anything to what Dr. Remsen has so well said. I have enjoyed every word of his paper and I agree entirely with him in his conclusions; and if discussion means antagonism, I cannot offer anything in that direction. We all believe, thoroughly, in the scientific method and we all recognize the compliment that is being paid to this method by its adoption in other departments of learning. We all think, in these days, that observation and experiment should precede book knowledge, as being the foundation upon which the reasoning faculty may exercise itself. To reason first as to what should be and then to go out and try to find in the external world the counterpart of the imaginings which we ourselves have found within, often fallaciously, is not the scientific method as Dr. Remsen has characterized it. We are not called upon now to consider the question, "Is the scientific method desirable in a system of education?" that is conceded; and therefore it follows that this method is desirable from the lowest to the highest grade. Let the child be encouraged to observe and to think about what he observes. Such a child two or three years old will ask more questions, and more important ones too, than this same child at the age of ten to fifteen; moreover, he will ask less foolish questions at the former age than at the latter. If we could only continue to increase in knowledge at the same rate that a child does in the first five years of his existence, what prodigies we should be! Why is it, that just at the age when the child begins to go to school, and begins to take an interest in books, he begins to lose his interest in things? Evidently, because as Professor Remsen has said, he studies simply books: because books and things do not go together in his instruction. The importance of things in relation to books has not been sufficiently recognized; although it is bound to be sooner or later of course.

As to the precise question before us, I agree entirely with Dr. Remsen as to the necessity of scientific education in our public school system; and this from the lowest grade up to the high school: the instruction in all the lower grades being preparatory to that given in the higher ones. Here in Philadelphia, however, high school science studies are not offered specially as part of a preparation for college. If a college be an institution whose function is to give the bachelor's degree

and if, as Dr. Remsen told us in Baltimore a year or two ago, it is the province of the university, on the other hand, to confer the doctor's degree—then a complete education is attained only when this duty has been done and the student has received his doctor's diploma. Now regarding the college as an educational institution conferring the bachelor's degree, we notice that the Philadelphia High School is anomalous in this respect. When I came to Philadelphia, more than twenty years ago, I was courteously invited by the president of the High School to visit that institution. He himself took me over the school building from the lower floor to the upper one, and showed me the facilities which they had there for instruction, both scientific and general. I was exceedingly pleased with what I saw, and on leaving I said to him, "I am gratified to see the extent to which the sciences are taught in this High School, and I am much pleased with the efficient way in which they appear to be taught; and therefore I am glad to believe that when students from the Philadelphia High School go to our colleges they will have a thorough grounding not only in science, but in science methods." Before I left the building, however, he called my attention to the fact that it was not necessary for a student from the High School to go to college because on graduating he received the degree of Bachelor of Arts from the High School itself. Of course if the object of education be the securing of a degree, no student of a high school need go to a college to take again the same degree. But if the object of study be the attainment of knowledge and the development of the intellect to enable a man to cope with the great questions of the day, then no degree of any sort, in itself, suffices for his needs; he must strive for the knowledge and not be satisfied with an exponent of it only.

While, therefore, we are in accord concerning the value of science studies in a system of education, and while for the most part we agree that these studies should be included in the curricula of schools which prepare students for college, yet I think that, as the result of my own experience, I must agree with Professor Remsen that high school science courses in general, as now arranged, are not in all respects such as give the very best training for admission to college. To the reasons for this which he has adduced, I may add one reason further. It is a reason which I suppose all teachers are conscious of in their own persons—a reason which I have noticed in young men who have been associated with me in instruction, a reason which I have

observed in these higher grades of public schools, such as the high school and the manual training school, and it is this: The fondness of younger men for teaching too advanced thought. It is these young men who sometimes bring the higher theories of science before very elementary students. It is the young men who desire to teach science from too high a plane who most frequently overshoot their pupils. In consequence the pupil's elementary knowledge is deficient and he comes to college unprepared. I would like to have it understood that I am here speaking for illustration and not for criticism. I am often asked to accept from certain schools preparation in my department for admission to the university; and I have sometimes declined, or at least have demurred. On one occasion the person asking me said: "You must admit that the work we do is quite of the grade of the work you require for admission." I said, "I do not know; that is my doubt." "Well," he said, "but don't you see that the pupils in our school are taught advanced technical instruction; what more than that could you ask for admission to the University of Pennsylvania?" "My dear sir," I said, "if they can be taught how to measure a centimetre with accuracy this knowledge would be of much more use in fitting them for our work, than that which you mention. This is given simply as an illustration of what I mean. Hence, I think I may say for my colleagues who are engaged in science college teaching as well as for myself, that what we need is more thorough fundamental instruction in these preparatory institutions. I beg the pardon of any here present if my remarks seem to imply any want of appreciation of the work done in these schools in general. Nothing I am sure could be farther from my intention.

While on the subject, I may mention that I was myself for two years a member of the Board of Education. I acknowledge therefore the excellence of the public school system of Philadelphia, which I think is an admirable system. Under the present superintendent our city has attained eminence as an educational centre, and its high schools, its normal school and its manual training schools are all doing excellent work. That the higher science studies and the scientific method are necessary to the proper equipment of the individual for all the transactions of life, is conceded; and, therefore, that the more we get of them the better, is also conceded. In consequence, therefore, whether this knowledge comes from a high school or from any other school, the college should be glad to welcome it. [Applause.]

Discussion of Professor Ira Remsen's Paper, "High School Science Studies as a Part of the Preparation for College."

Professor O. D. Clark,
Boys' High School, Brooklyn, N. Y.

I do not propose to prolong this discussion beyond a very few minutes. I would not enter upon it at all at this late hour, if I were not forced to the conclusion, by listening to the addresses during the past two hours, that it is important that this subject should be discussed from the standpoint of a teacher in a secondary school as well as from that of a university professor.

More than that, there are some things which while they are neither new nor original, need to be emphatically stated over and over again and they need to be voiced nowhere with more emphasis than in this association and at this time. This association, made up as it is of the colleges of the Middle States and Maryland, representing the higher institutions, and for the most part of private preparatory schools, representing the secondary institutions, is apt to forget that the great majority of the secondary pupils of this nation are in the public high schools. This majority is not so great in the Middle States and Maryland as in some other sections of our country, but even here it is a majority of considerable size and rapidly increasing. We are apt to forget that the close relationship which ought to exist between these high schools and the colleges does not exist. If any considerable proportion of these secondary pupils ever go to higher institutions they must go directly from the public high schools and must be admitted on the preparation received therein.

During the last two hours we have listened to many compliments paid to the teaching done in secondary schools. Several of the speakers have taken the trouble to state that they knew little or nothing about secondary schools. This is a point upon which I am sure we can all agree. I do not know what secondary schools they have in mind. If it is the kind of schools that existed fifty years ago, or less, when they were doing their elementary work, I would not go back into such ancient history to discuss the criticisms; but if it is the public high school, or the private preparatory school either, as it exists to-day, that they are criticising, I will give the subject a moment's attention. We secondary teachers have a decided advantage over these college professors. They state that they

know but little of secondary school work. That saves me the trouble of proving it. Fortunately we do know a good deal about college instruction. Most of us have a more or less intimate acquaintance with the inner workings of one or more colleges. Each one has only to think back over his own college work to decide whether all the poor instruction is confined to the secondary schools or not.

In the many improvements which colleges have made in the last few years, possibly these weaknesses which existed in our time have been removed. The method which Professor Remsen employed to find out about preparatory school work is available to those of us who send boys to college. We often interview them when they return. I do not know what criticisms they pass upon their high school teachers when talking to their college professors—they don't tell us that; they know better. I know, however, that it could not be more severe than what they say of certain of these college professors, eminent men, whom they characterize as "dead losses," or when they tell of getting more good out of the college library than from class-room instruction. Remember that these criticisms with reference to poor teaching are not all upon one side.

As has been said before this morning in connection with the study of history, these public high schools are not primarily preparatory schools for higher institutions. Professor Thurber pointed that out very emphatically in the New England Conference last month. These schools are the highest schools to which the majority of their pupils will ever go. Here they should receive as adequate preparation as possible for the duties of after life. The work of the high school should not be along narrow and prescribed lines, for it is the duty of these schools to discover as early as possible the differences which exist among their pupils. They should watch for inherited aptitudes and natural endowments and when these are discovered they should try to develop them. This is as much the duty of a high school as of a university.

To do this the high school course of study should be broad enough to include all those subjects which experience has shown can be taught satisfactorily to, and studied advantageously by, boys and girls between the average ages of fourteen and eighteen years. That the elements of biology, physiography, physics and chemistry, like the elements of algebra, geometry, ancient and modern languages, English or even history, can be taught better at this age than at any other, taught

to more enthusiastic pupils and with better results, no teacher of science in a secondary school questions. The secondary school age is the age for elementary work in all these subjects and they can be postponed to a later period only with less satisfactory results. Moreover, many pupils find elementary science stimulating and inspiring, while other studies are uninteresting and discouraging. To these, without science, school work would be drudgery to be set aside at the earliest opportunity. Many a pupil has been roused to higher mental activity in all his work by an intense desire for scientific study.

Again, the public high schools are the schools from which come the great majority of the teachers for the primary schools. We have heard much from Commissioner Harris and other eminent authorities about the desirability of elementary science or nature study in the lower schools. If elementary science is ever to be taught successfully in the grades it must be a part of the high school course, so that these teachers may be prepared for this work.

To meet the needs of the two classes of secondary pupils, those who finish their school work with the high school, and those preparing to teach in the primary schools, sciences must be taught in the high schools. But this does not need discussion. As Superintendent Nightingale has pointed out, "the sciences no longer knock at the doors for admission. They have been admitted, and a larger and still larger place will be provided for them. The sciences, as they are beginning to be taught in our best schools, add to the wealth of mind as well as to the stock of facts, and the colleges must recognize them as full equivalents for other work, which they have hitherto demanded to the exclusion of science."

In these same high schools there is a third class, those desiring to enter college. This includes a large number in the aggregate, but comparatively few in each institution. It is not possible for most high schools to carry on two distinct lines of work, one preparing for college and the other for those going out to meet the problems of life. It would be foolish to attempt it, if it were possible; because the decision to go to college often comes late in the secondary course. I do not know how it may have been with you; you may have known when you entered upon your preparatory course that you were going to graduate from college; but among the boys with whom I come in contact, rarely one has any definite idea until he reaches the last term of his high school course, that there is

anything he needs to know, beyond what he is going to learn during the next term. When he finally graduates and finds that he has not acquired it all, when he finds that other boys are going to college, when he finds the expected openings into business are not visible, when he finds that by self-sacrifice, by hard work, by maintaining a high rank, he can secure the means by which he can pay for his college education—then, and not till then, he makes the decision to go to college.

It makes no practical difference to the high school whether he goes to college or not. It does make a great difference to the boy and to the university. The boy wants a college education, the university needs students. The high schools are often overcrowded, the colleges are always on the cry for an increased attendance.

But if these students go to college they must go with the preparation the high schools have given them. That preparation will be as broad and as thorough as good teaching can make it. But it will be along different lines suited to the different individual requirements. Four years of satisfactory work, along any one of a number of different lines, should lead to an open college door. If proper standards are set, these different lines of work can be made full equivalents the one for the other. You set the standards and we will meet them. Just as good work will be furnished in any line as is required. The colleges should encourage the high schools to do their broadest and best work, and not seek to undermine them by low entrance requirements. The high schools are bound to do more and more advanced work. It will be to the advantage of the community in which the school is situated and it will be to the advantage of this nation that this should be so. It can also be made of advantage to the colleges and universities, if they will recognize these tendencies and will encourage rather than oppose them. The high schools must be the connecting link between the primary schools and the colleges for the great majority of pupils. If this connection is not a close one so much the worse for the colleges as well as for the bright boys and girls who, under other conditions, might have become their students.

The relation of the high school to the college is a close one in many of the Western States. It should be the same in the Middle States and Maryland. Cornell within the last year has started a plan which, when fully carried out, ought to lead to this result.

The college should begin wherever the high school leaves off, either by requiring all the high school work as a preparation, or by accepting the more advanced portion as equivalent to a certain amount of college work. The better class of high schools will meet any reasonable requirement, and the others will follow along until they belong to the same class.

Last spring a series of conferences was called of representatives of six of the leading universities of the Eastern and Middle States, and of certain selected preparatory schools. The public high schools were practically ignored. The claim of science as a preparatory subject was also ignored. This omission was the more noticeable because three at least of these six great universities have long been noted for their scientific work, and have received lasting renown from the achievements of the great scientists connected with their faculties. What was the reason for this omission? Because certain private preparatory schools, which surround some of these universities and prepare many pupils for them, have no facilities for doing and never have done any scientific work worthy of the name is not a strong pedagogical reason why all secondary science instruction should be ignored when considering the claims of different lines of work in relation to college entrance requirements. There are high schools which are as well equipped for teaching and do teach the sciences as thoroughly as other subjects. There are some high schools in the Middle States and Maryland which are as well prepared to teach elementary chemistry as Johns Hopkins University was ten years ago. They have laboratories and follow the laboratory methods. If much of the scientific teaching in secondary schools is not entirely satisfactory, the reason is because the colleges, ten or fifteen years ago, when the teachers in these schools were studying in those colleges, did not teach satisfactorily. If these institutions will do what they will be satisfied to receive back again ten years from now they will get it back. In conclusion, let me state in a single sentence the position of the high school teachers, including the teachers of science, upon this subject of college entrance requirements. We desire that four years of satisfactory secondary work should secure admission to any college, that every line of work should be taken into account at its full and proper value and that the sciences should receive exactly the same consideration, no more and no less than is given to each of the other secondary subjects.

At the close of the first session a luncheon was served to the delegates in Houston Hall. More than six hundred were present at the luncheon.

SECOND AND FOURTH SESSIONS.

Houston Hall being too small to accommodate the attendance at the convention, the second session was held in the University Chapel.

The convention was called to order by the president, Dr. MacKenzie.

CONFERENCE ON COLLEGE ENTRANCE REQUIREMENTS.

Some of the sub-divisions of the subject are:

(*a*) The advanced age at which the average student now enters college.

(*b*) The advanced age at which college men must now enter the professions, and the effect upon the individual and the community.

(*c*) The tendency of men to omit the college course as college entrance requirements are increased, that they may enter professional or technical schools direct from the secondary schools.

(*d*) Should the present standard of college entrance requirements be lowered through concerted action, and partial, even if not complete, uniformity of requirements?

(*e*) A partial reorganization of our public school system, with a view to its more perfect articulation with our colleges.

(*f*) Effect of lowering the age of entrance to college upon the undergraduate and graduate study, and upon the social life of the student.

The form decided upon for the consideration of these topics was that of "Round-Table" discussion.

STANDARDS OF ADMISSION TO COLLEGE.

DOCTOR EDWARD BROOKS,
Superintendent of Public Schools of Philadelphia.

MR. CHAIRMAN, LADIES AND GENTLEMEN: It is with feelings of diffidence that I attempt to express an opinion upon this question in the presence of those who, from their official relations, have made a special study of it. I recognize the fact that there is a widely prevalent sentiment that some change in the college curriculum is needed to adapt it to the spirit and practical demands of the age. This sentiment is not confined to the practical business public, but is held also by many liberally educated men and women in various walks of life. Whether this sentiment is based on a correct judgment, and what weight it should have with college authorities, are questions pertinent to this discussion.

The one opinion upon which there is a very general agreement is that the average age of graduation from our colleges is too high. This average age is shown by statistics, with which

college men are familiar, to be about twenty-three years. Glancing over the Yale Class Book of '90, I find the average age of the Class of '91 was 22 years, 7 months and 12 days. Fourteen were over twenty-six years old, and three over thirty. Graduating at this average age, a man who takes a three years' university course in law or medicine will be nearly twenty-six years of age before he can enter upon a profession. That this is an advanced age for a young man to begin a professional or a business life will be generally admitted.

I. Should Present Standards be Maintained or Modified.

Assuming that the average age of graduation from our colleges is too high, it is in the interests of liberal education, as well as practical life, that both the cause and the remedy should be sought. One prominent cause seems to be that the standard for admission has been so much advanced during the past thirty or forty years as to necessitate a longer time for preparation, and thus an increase in the age at entering college. The extent to which the standard of admission has been advanced may be shown by statistics; but it is admitted to be considerable. Whether this standard is too high, however, is a question the determination of which ought to be safe in the hands of those who are immediately connected with the colleges themselves. A comparison of the standards of to-day with those of some forty or more years ago, when such men as Webster, Everett, Phillips, Emerson, Longfellow, Lowell, Beecher, Depew, etc., were graduated, will at least furnish data for the solution of the problem. The standard of collegiate education seems to have been high enough to qualify these men for a successful life, and make of them ornaments of culture. The question men naturally ask, therefore, is whether there is any need for a higher standard to-day. If it is said there are more branches to study than there were forty years ago, the reply is, Should not some of them be left for post-graduate courses or private study?

But a second and more influential reason for the advanced age of students entering college is found in the lack of good secondary schools. With properly equipped secondary schools, properly patronized, there is no reason why boys of sixteen should not be thoroughly prepared to enter college, even with the present advanced standards of admission. Take any boy of ordinary ability and put him in a good secondary school at

nine or ten years of age, and he can be thoroughly prepared for college at the age of sixteen. He should begin the study of Latin not later than ten; he can learn it then better than when he is twenty, for his word-memory is quick and retentive, and his judgment is mature enough for every demand upon his intelligence. In the translation of Latin he has a constant drill in English, increasing his vocabulary; and in weighing the value of words found in his dictionary, he is acquiring that nice sense of verbal discrimination that no method of studying English yet devised has been able to parallel. Besides, there is an exactness about the branch that necessitates habits of study so essential for a true education, and so difficult to secure in the ordinary English course.

Greek can easily follow Latin at the age of twelve or thirteen. The history required will be readily learned at this age, when the memory for facts is quick and strong. All the arithmetic required for the college can be completed at twelve or thirteen; the elements of algebra can be taken up about this time, and two years in geometry, beginning about fourteen, will give ample preparation in that branch. Daily attention to orthography in all the branches, and occasional drill in a good spelling-book, will make him a satisfactory speller; and after Latin Grammar, the pupil will need to spend but little time in the formal study of English Grammar.

I think it cannot be doubted that pupils bright enough to take the college course can be thoroughly prepared in good secondary schools at the age of sixteen or seventeen. Furnish the country with a good system of secondary schools such as those of Andover, Exeter, Lawrenceville, etc., and have them properly patronized by pupils whose special purpose is to prepare for college, and there would be little complaint of too high standards for admission. All pupils bright enough to take a college course could be ready to be graduated at twenty or twenty-one. Daniel Webster entered Dartmouth College at fifteen, Benjamin Rush was graduated at Princeton at fourteen, and William M. Meredith at the University of Pennsylvania at thirteen.

These, of course, are exceptional cases, but a careful examination will show that the average age of graduation up to within thirty or forty years did not exceed twenty years. James Russell Lowell, Charles Sumner and President Eliot graduated at Harvard at nineteen, Edward Everett at seventeen, and Wendell Phillips and Dr. Oliver Wendell Holmes at twenty.

Elias Loomis, Theodore Dwight Woolsey, Dr. Noah Porter and Samuel F. B. Morse graduated at Yale at nineteen, John Van Buren at eighteen, and William Walter Phelps at twenty-one. Longfellow graduated at Bowdoin at nineteen, Hamilton Fish at Columbia at nineteen, William H. Seward at Union College at nineteen, Dr. William Pepper at the University at nineteen, Elisha Ticknor and George Ticknor both at Dartmouth at sixteen, and President Francis Wayland at Union College at seventeen. These are representative men, and indicate that a good system of secondary schools ought to prepare average students at sixteen so that they may graduate at twenty.

But we do not have this system of secondary schools, and this fact modifies any conclusion drawn from a theoretical consideration of the subject. Moreover, if we had these schools, they would not be properly patronized by those who wish to enter college. First, American parents do not as a rule realize the necessity of this early and thorough preparation; and even those who patronize local secondary schools are not in sympathy with the requirements of close application necessary to make good students and thorough scholars. The coddling of children at home is often extended to the school, and delays the work of secondary education. Second, parents are often not in circumstances to have aspirations for the collegiate education of a son until he is past the age at which he should begin such a preparation as has here been indicated. Then, frequently a wrong or a poor school is selected, and changes are made from one school to another until the boy is eighteen or nineteen, or maybe twenty, before he is even imperfectly prepared to enter college.

Herein lies the difference between the qualifications of the American boy and the English boy for college. There, with less sudden changes in financial circumstances, the great middle class, as well as the higher classes, make an early decision whether the boy is to go to college; and he is then sent to one of their good secondary schools, like Eton or Rugby, whose chief purpose is to prepare boys for Oxford or Cambridge. No time is lost in outside and collateral studies, and there is thus good reason that they are better qualified for college than the average American boy at the same or even greater age. A similar comparison will hold for secondary education in France and Germany. Professor Goodwin says that boys of nineteen entering American colleges "are barely prepared to pass an

examination which boys of sixteen and seventeen would find easy work in England, Germany, France or Switzerland."

These facts serve to modify any judgment in respect to standards of admission considered abstractly, and suggest side issues in the discussion and determination of the question. With a proper system of secondary schools properly patronized, I do not believe our present standards are too high. With the limitations for preparation that exist, it is a question whether the higher standards should be maintained. Should not American colleges adapt themselves to American conditions, in the hope that, with the completer organization of educational facilities and more enlightened ideas among parents in respect to the education of their children, better and earlier preparation will be made and standards be gradually advanced? Until such a condition arises, the only remedy for the advanced age of college graduation seems to be found in some modification of present standards for admission.

II. The Public Schools in Relation to College Preparation.

Here the question arises, What relation does our system of public schools bear to the problem of college preparation? and it is the one that I am more immediately connected with.

What are the grammar schools and the public high schools doing to prepare pupils for college? Replying to this I would say that they are doing very little, directly, in this direction. Of the pupils of our elementary schools in Philadelphia less than three and one-half per cent enter our high schools; of the pupils in the grammar schools about twenty per cent enter the high schools and of these only a very small per cent, indeed, go to college. This is a showing not at all creditable to the city; but it indicates the actual relation of the public schools to the colleges throughout the country. In respect to Philadelphia I desire to say in passing that influences are now at work, promising, in the near future, to largely increase the number of pupils entering our high schools and going thence to college. But suppose we double or treble the number of these entering our high schools preparing for college, the percentage would still be very small. Shall the curriculum of the elementary schools be shaped to the idea of fitting pupils to enter college? While this has been directly or indirectly advocated by some intelligent educators, the facts above stated stand arrayed against such a proposition. Ninety-nine per cent of the children

do not aspire to a college education, many of their parents are not in position to give them such an education; but even supposing there were ten times as many—say ten per cent (desiring to fit themselves for college) of the grammar school pupils—should the interests of the ten per cent determine the instruction of the ninety per cent? The question carries with it its own negative answer. Should it be said that the curriculum to fit for college would be the best also to fit for life; that opens a question I will not stop to discuss; but it does not command my assent. Such a curriculum is at present an impossibility in Philadelphia. Our grammar school pupils enter our high schools at the average age of fifteen years: if they were being fitted for college they should have been studying Latin at least three years and Greek one year, with some algebra and geometry. This is absolutely impossible; for our grammar school teachers are not prepared for this work. To suggest such a change in the curriculum at present would be regarded as quixotic and the endeavor to enforce it would create a public school clamor in our city. Not five per cent of the pupils of the country high schools enter college or desire to do so. Many of these schools do not possess the curriculum that would prepare pupils for college and their pupils have no aspiration for college education. Yet these schools meet the public demand. They fit their pupils for the practical duties of life and make of them intelligent and patriotic citizens. These are the people's schools and carry their pupils just as far as the people desire them to do. Besides, if the object of these schools is not to prepare for college, a more practical curriculum than that of the college preparatory school is desirable. Instead of the few years in Latin and one or two in Greek, they need more mathematics and physical science, a course in English and history, in music, drawing, manual work, etc. It is the duty of those having charge of these schools to provide for the interests of the larger number of pupils. Free education is for the masses, rather than for the select few who can spend four years from home to attend college. The city high school comes nearer the ideal of a true secondary school which I discussed in the early part of this paper. In Philadelphia our Central High School and two manual training schools prepare some of their pupils to enter the university. We have recently organized our Girls' High School to meet the demands of higher education; one of the three courses being designed to fit girls for college. Pupils entering this course do so to prepare for a

college education. There are near us Bryn Mawr and Swarthmore colleges which some of these girls will attend; but many of them, on account of various reasons, may not be able to attend any institution that takes them away from their home. There will thus arise a demand for a collegiate department in the city which it is hoped the University of Pennsylvania (which has dealt so liberally with the boys of our high schools) may see the way to provide for. [Applause.] But the same objection occurs here. Girls entering the high school are at least fifteen years of age—the average is a little higher: the four years course brings them to nineteen years, and a four years course in college will make them twenty-three at graduation—an age that parents will regard as too advanced for social reasons if for no other. [Laughter.] The only way to reduce the age with the present standard of admission is to begin the college preparation two or three years earlier. This could not at present be done in the regular classes of the grammar schools; for only a small proportion would elect to go to college and the instruction should be shaped to meet the wants of the majority. A new problem thus presents itself in the directing of our city schools, and one which will grow in importance as the demand for higher education increases, which it is absolutely certain to do. The problem, therefore, is, how to prepare the pupils of the public schools, who aspire to a college education, to enter college two or three years earlier than at present.

The simplest solution would be to establish separate classical grammar or high schools; or to modify the present high school course so as to admit pupils two or three years earlier than at present. Arrangements could be made by which all grammar school pupils wishing to enter college shall leave the ordinary grammar schools at the end of the sixth year and enter the classical course of the high school. A good high school would be able to take the separate grammar school pupils at twelve or thirteen years of age—that is, those who had completed the sixth years' work at the elementary schools—and prepare them in four years for the average college entrance. Pupils of this age will learn their history, Latin, and any other language as readily as when two or three years older; and in this study of Latin grammar they will learn, in fact, all that is needed of English grammar for their admission into college; while their exercises in Latin and Greek are among the very best means of cultivating skill in the use of English. A plan similar to this seems to be the only solution of the problem of an

earlier college preparation in our larger towns and cities. The pupils wishing to go to college must be separated at twelve or thirteen from those not wishing to go, and be put in schools whose special work it is to fit them for college. This will give us a system somewhat similar to that of the German gymnasia. While many cities are not ready for the adoption of such a plan, the time is not far distant when in my opinion it will become a necessity. Public education means higher education as well as elementary education. Though there has been but little demand for college education by the pupils of our public schools, the demand is increasing and within the next fifty years will be comparatively large. To meet this demand pupils must be placed in the classical high schools at an earlier age than at present so that they can graduate at about twenty or twenty-one. The plan is a perfectly feasible one, in my opinion; and presents a simple and practical solution of the question of earlier entrance at college by the young men and women of the larger cities. In country places, and among parents in good circumstances who do not patronize the public schools, reliance must be had on good, private secondary schools, as in New England. These schools, in most parts of the country, are so few, that something should be done to multiply them. Our own State is especially deficient in this respect. If Pennsylvania would provide by legislative enactment for establishing a number of secondary schools on the plan of combining local and State authority (as in the normal schools)—it would be a most important step in the direction of liberal education. There is no one improvement in our State educational system that is more desirable than this; and it is a movement which I commend to the attention of the College and University Council of the State; and, being a member of it, I hope to have the opportunity of presenting it to them for consideration at our next meeting.

While these are ideals toward which we should aim, it will be many years before we shall have our gymnasia connected with our public school system or a supply of first-class secondary schools throughout the country properly supported and patronized by the public. In the meantime it seems to me necessary to adapt our educational system to the actual circumstances of the present. The plan above suggested is to modify the preparatory schools to meet the present demands of the colleges. Should not the colleges do something to modify their demands to meet the present condition of the preparatory

schools? It seems to me that it would be wise for college authorities to adapt their courses of study to the spirit of the age and place the standard of admission at the lowest point compatible with the demands of a liberal education. [Applause.]

PRESIDENT CHARLES W. ELIOT,
Harvard University.

In order to bring the colleges and high schools together, it seems to me that both classes of institutions need to do something; and let me first consider what the colleges ought to do. I cannot agree with Superintendent Brooks that the colleges ought to lower their requirements for admission. He suggested that they lower them in order to get their students younger. Now the colleges, as a matter of fact—and when I say college, I mean also scientific school—do not want their students much younger, simply because boys much younger than the actual average student would not be fit for the great freedom which students have in all American colleges and scientific schools. [Applause.] I put the proper age—the best age—for admission to a college or scientific school in our country at eighteen. That is about the right time for a young man to leave his home, or the secondary school in which he has been carefully watched and guided, and to assume the great liberty of college or scientific school. But still, I agree with Dr. Brooks that colleges have something to do to adapt their requirements for admission to the existing state of the American secondary school. Dr. Brooks, it seems to me, is right in saying that the high school, the public school supported by taxation, should be greatly considered, because it is that sort of school which enormously preponderates among the secondary schools of this country. The endowed academies and private schools are in a feeble minority. The great body of the secondary schools are the public high schools supported by taxation. Therefore, if we want to get into our colleges and technical schools more than this small percentage of all the secondary school pupils, to which Dr. Brooks has alluded, these higher institutions must make connection with the public high school. The public high school has come to stay; it is a permanent institution in our country—this secondary school supported by taxation. All American education must

reckon with it, both the elementary school below it, and the college and technical school above it. Moreover, it is an admirable thing. It is an American product; the like of it does not exist in any other country. Not that other countries have not some better schools—they have; but they have not got the secondary school which the American people have created. They have other kinds of schools. Therefore, it is a very important practical question, how we can get our colleges and scientific schools connected with the existing public high school. It would not be satisfactory to establish connection in a little strip of country on the eastern edge of the continent only—we want more than that; we want to connect with public high schools all across the continent, away out to the Pacific; and, though an Eastern man myself, representing an institution which hangs on the very verge of the continent, I have to confess that I have seen in Western cities public high schools better equipped in some respects, than any I have seen in the East, having been more liberally dealt with by their respective communities. There are many Western high schools that are competent to fit boys well for admission to the Eastern colleges. In Massachusetts, out of about two hundred and forty high schools in the State, there are not more than twenty-five capable of sending pupils regularly to Harvard College. We are a long way off from the desirable close relation between the public high schools and the colleges. What can the college do?

It can modify its requirements in this way: The college or the technical school should count for admission every subject which is taught thoroughly and long enough in the American high school. [Applause.] The colleges do not do that now. They count Latin and Greek and algebra and geometry, and a little bit of history—I am sorry to say it is generally the history of Greece and Rome—and some colleges (by no means all), count a scrap or two of science, sometimes too small a scrap, and some count a modern language. This short enumeration by no means covers the subjects which are thoroughly taught in the high schools, broadly considered; and what the colleges, in my judgment, should do is to count for admission every subject that is adequately taught in a public high school, that is, taught long enough and well enough to enable the pupil to get out of it the training it is fitted to supply. As Dr. Remsen was pointing out this morning, it is impossible to count for admission to a college or scientific school a six weeks' study of chemistry, physics, astronomy,

botany, or zoölogy; or, at least, it is unwise to do so. The University of Michigan does count little scraps of science for admission—a few weeks' study of these natural sciences which I have enumerated may be credited to the candidate for admission. That is done in the eagerness of the University of Michigan to connect with the Michigan high schools and with the high schools of other States. That course is not to be recommended, in my judgment, for the longer established—particularly the endowed—colleges in the Eastern States; but it is reasonable that every subject which is seriously taught in a public high school should count for admission to college or technical school: This would be a great step forward. It is a step so considerable that we cannot expect all the Eastern colleges to take it at once. They are, however, moving that way.

I see with great satisfaction that several of the Eastern universities are doing away with their inferior admission examinations for their courses leading to inferior degrees. We have suffered long a very serious evil in this respect, namely,—the admission to the technical sides of these establishments of half-trained young men, on terms very much lower than those on which candidates are admitted to their classical sides. The low standards of admission to the scientific and technical schools have been a great injury to the public high schools of our country; because it is to those low standards that the public high schools have been tempted to conform their courses, and not to the higher standards of the classical departments. Now Cornell has given notice that it is going to elevate its standards for admission to the scientific courses within the University to the same level as its standard of admission to its classical course. That new policy will react most favorably, in my judgment, on the high schools in the State of New York, and gradually on secondary schools throughout the country. I have been rejoiced to see quite lately that the serious step forward which the Sheffield Scientific School took two years ago in regard to its entrance requirements has been responded to by the secondary schools. There was at first a falling off in the number of applicants; but this year a good portion of that loss has been recovered.

This process of better affiliation has begun; but it needs to be urged forward. The college and scientific schools need to have it pointed out to them that their interest lies that way—that they need to connect closely and fairly with all these thousands of secondary schools with which now they are only

imperfectly connected. This close connection involves the use of options at the admission examinations. There is no reason why the scientific schools should not count Latin and Greek toward admission, or why the colleges should not count physics, physiography, French, German and history. Both classes of institutions already count English, algebra and geometry. These are too many subjects to be demanded of any one candidate. Let the colleges widen their range of permitted subjects, and give the candidates a judicious option among them. Then the schools can prepare each its own candidates in that selection of studies which is most agreeable and convenient to the schools themselves.

Let me touch next the other side of this question, namely,—What ought the schools to do? And here I find it quite impossible to separate the elementary from the secondary schools. The fact is that the course of education is one and indivisible, and its spirit should be one throughout. It should always be primarily a training for power and not for information—no matter whether at eighteen the partially-educated youth is going into college or technical school, or into what is grandiloquently called "life"—a much abused word, because really, what the boy or girl of eighteen, whose education ends with the high school, goes out into is simply a life inferior in its training quality, and in its power of giving an increased capacity of enjoyment, to the life which the more fortunate pupil goes to who can continue his education at college or scientific school. I dislike to hear the word "life" specially applied to the inferior issue. How ought the schools to modify their course of training? In the first place, as I think Dr. Brooks stated —though he did not put it in just this form, and perhaps would not accept my version of his thought—we want to move down into the grades, or grammar schools, all the studies now reserved for high schools which the pupils in the grammar grades are fit and ready to pursue. That is the first thing to be done. I am happy to say that it is being done at this moment in no inconsiderable number of American grammar schools. We are getting down into the grammar schools, or grades, those studies heretofore reserved for high schools that the grammar school pupils are fit to pursue. These studies are the elements of algebra, geometry and physics, a foreign language, and history—all seriously taught to pupils of from ten to fourteen years of age. This is not a matter of speculation at all—it is being done now, and done with entire success, with much

added enjoyment of their work by both teachers and pupils, and with great relief to that wearying dullness which is the real cause of what is called overwork in grammar schools. It is the monotony of the teachers' work that wears them out. It is the endless repetition of uninteresting things which bores the pupils. If interested in our work, we adults do not tire. That is a doctrine which needs to be applied to children very much more than it now is. [Applause.] When all these so-called high-school subjects have been moved down into the grammar schools, the pupils will go at fourteen to the high school with a much superior education to that which they now have, and then the secondary school program can be greatly improved.

But is it possible, you say to me, that you advocate teaching a foreign language to every boy and girl in the grammar schools of Philadelphia? I think it would be very wise to give every boy and girl in the grammar schools of Philadelphia a chance to learn a foreign language—either Latin or a modern language; and I can assure you, you will be astounded to see how many thousands of children will avail themselves of the privilege. That is the result in Massachusetts in those grammar schools which are already offering an optional language, and optional science. The children take the optional subjects with gladness, simply because they are interesting and enlarging. They give a sense of achievement and progress; they widen intellectual prospects, and increase enjoyment at school and at home. That is what the change does for the children in the grammar schools; and that is the reason they take the new subjects. Next they can enter the high schools in a much better state of preparation than heretofore; and the high schools can then do in four years all that the colleges of highest standard in this country now ask of the candidates for admission.

Of course, there should also be options in the high schools. The pupils should not attempt to pursue all the studies of a well-equipped secondary school; because, if he does, he will not be sufficiently thorough in all of them. Too many subjects for each pupil are the bane of our public high school courses. And yet, let us not ask a greater thoroughness of children than we expect of ourselves. I remember being once interested in an inquiry whether the children eight years of age in a certain grammar school knew how to read or not. The examiner first asked the class to read something which they had read that year in school. They did it with ominous glibness. He then asked them to read something equally simple

which they had never seen. The teacher protested against such a test as unwarrantable and unjust; and it turned out that they could not read an untried page. They could read when they had committed the pages to memory, as they had had ample time to do in the course of the year which they spent on a single ineffably dull reader. That is the destructive kind of thoroughness. [Laughter.] I mention this kind, because I used the word "thorough," and I was afraid you would understand me to mean that killing sort of thoroughness which prevails in too many of our schools. Let us not ask of our children any greater thoroughness than we ask of ourselves. How many of us here, when we have read with delight "Beside the Bonnie Briar-Bush," or "The Days of Auld Lang Syne," can give a full account of it, tell all the main incidents of the book, or describe the topography of Drumtochty? They are most delightful and impressive books that come home to us all and set most of us crying; and yet I venture to say that not a person in this hall can give the kind of account of them which we ask students entering Harvard College to give of the books in prescribed English. [Applause.]

In the high school, therefore, these new grammar school pupils who bring to the school a foreign language begun at ten or eleven, will get much farther in languages than has previously been possible. These grammar school pupils who have already studied algebra—who know its elements and have escaped through the early use of it from much wasteful arithmetic—will go farther in algebra with ease and satisfaction. These pupils from the grammar school, having pursued concrete geometry six or eight years, and demonstrative geometry two years at least, before touching the high school, will go a deal farther in geometry—they will be able by eighteen to solve simple problems in geometry that they have never seen or heard of—that being what we ask of applicants for admission to Harvard College. Thus the general grade of the teaching in the high schools will be lifted; and when these things are done no college or technical school need give itself a moment's anxiety about a necessary lowering of its standards for admission. There will be no such necessity.

Let me give you an illustration of what can be done through an optional method of admission for an English high school in which no Greek is taught, and no Latin except to pupils who specially apply for it. Ten years ago Harvard College offered a substitute for Greek at admission; that is, we introduced

a new option into our requirements. The substitutes were science,—chemistry or physics,—and logarithms, trigonometry and solid geometry. These substitutes are more difficult than the Greek, take more time and are less attractive than Greek; because the great majority of pupils, whether in school or college, prefer languages, history, and philosophy to mathematics and science. We think of this age as a practical one, and imagine that we Americans have a tendency to pursue exact science. It is not so in education. The most conspicuous fact brought out by the freedom in choice of studies which obtains at Harvard is that the subjects comparatively neglected are the sciences and mathematics. These options for Greek are then neither easy nor attractive. Nevertheless, the English High School of Boston for ten years has sent to Harvard College a steady stream of pupils who have entered through these options for Greek. More than that, we have kept watch of these young men during the four years spent in the college; and they have done better than the average student coming in through the ordinary language requirements. Some of these English High School boys have become in college excellent students of language. We are glad to have them come to Harvard, because they are an ambitious set of fellows; and I recommend to all the colleges that they go and do likewise, because they will get through such options in the admission examinations a superior class of students. I do not know how long the superiority I have mentioned will last, because it is probably a picked lot we get from the English High School in this way. If it should become a general practice, the lot would cease to be picked.

But now we must turn to the important matter which was just presented by Superintendent Brooks—namely, the alleged necessary discrepancy between the course of study which leads to admission to college, and the course of study that leads to admission to a store, a bank, a factory, a delivery wagon, a telegraph office, or whatever other place of business the youth just graduated from the high school gains admission to. Let us not be deceived by a phrase like "entering life." What really happens is this—a small percentage of the high school graduates go to college or scientific school; while the rest go into shops, stores, factories, banks, insurance offices, or other industrial or commercial occupations. Now all these are most excellent, respectable, and serviceable employments; but they are not as good training-schools either for body or mind as

colleges and schools of science or technology. Now ought the young men and women who are necessarily going into these inferior pursuits at eighteen to have a better or a worse education up to eighteen than their more privileged comrades who are going on to school or college? I maintain that they ought to have just as good an education up to that point as their comrades who are going to college or scientific school. As a matter of fact, they do not get it; and they have never got it in this country. Just here lies the chief cause of the inferiority of the high schools to the preparatory schools and endowed academies. The training given in the high school is inferior to the training given in these other schools; and it will remain inferior so long as the American voters are content that the young people who are going out into the world, as we say, —that is, who must earn their living after eighteen—shall receive an education inferior to that which the young people who are going into college receive up to the same age. How is it inferior? It is more "scrappy," to begin with; it deals with more subjects not so well taught. In the next place, it attaches too much importance to information and too little to training. The high school graduate, it is said, must know something about chemistry; and you heard this morning how much he can learn about chemistry out of a book, and to what profit. He must know something about physics—it won't do to ride in an electric car without knowing something about its mechanism. These are common but mischievous delusions about education. The less we know about the chemistry and biology of the air of this room the more comfortably we shall breath it. We can ride quite happily in an electric car without having the slightest conception of what electricity is. Indeed, that is the condition in which we all ride. If we are looking for information only, we had better get our information in what are called the "humanities"—that is, in languages, politics, and philosophy, in the story of the development of the race, and of its home on the crust of this earth. I maintain, first, that the boy who is going to college needs a just kind of information quite as much as the boys who are going into shops or offices, and that the colleges should permit such information to count towards admission; and secondly, that the boy who is not going to college needs a strong intellectual training in his secondary school—training in the power to observe accurately, describe correctly, and reason justly—even more than the youth who is going to college; for

he will have no other chance at systematic training. I do not believe for a moment in this supposed necessity of separating before eighteen these two classes of persons, just because their destinations are different after eighteen. What is best for one up to eighteen is best for the other. Up to that age the problem for the two is the same—how to inspire the love of learning, and to develop the capacity for acquiring exact knowledge. Can we say which needs this love and this capacity the most?

But Dr. Brooks and other experienced teachers say it is impossible. But it will not prove to be impossible, if secondary schools and colleges will co-operate intelligently. As I look back forty years over the development of education I see many things achieved which were at first said to be impossible. You know how much has been done here in Philadelphia within the last ten years. I venture to say that many of the things now accomplished would have been said to be impossible when first proposed. We ought not to use that word in American education till we have tried to do the alleged impossible, not for a year or two, but for a generation; then we may learn what the limits of possibility are; and, depend upon it, the limits of possibility in education are not yet in the least degree discerned or imagined. [Prolonged applause.]

VICE-PROVOST GEORGE S. FULLERTON,
University of Pennsylvania.

The one point I wish to discuss in the few minutes allotted to me is the effect upon the individual and the community of the advanced age at which college men are now entering the various professions. At the outset I should like to make a distinction between the college properly so called and the technical school. To my surprise, President Eliott has appeared to treat them as though they were on a par; but a technical school, although it is usually treated as though it were a college, or a group of courses in a college—and thus it is officially treated here with us—is really as much a professional school as a school of law, medicine or theology. The student who enters a technical course directly from school, expects at the end of four or five years to take up his life-work, and to at least begin to be self-supporting. He is better able to take care of himself than a new graduate in medicine or law. He has

completed his time of tutelage, and enters upon what has been called "life." The present average age of entering upon our technical courses is not, I think, too high, just for the reason that, when the student has finished his course, he has finished his whole student-life, in the narrower sense of that term.

It is, however, different with college courses properly so-called. A number of the students who enter these, intend, upon leaving them, to enter business life; but a large number propose afterward to enter schools of law or medicine or theology, and it is with this class that I am here directly concerned. The question is, What is the effect upon them individually and upon the community of having them enter the freshman class of a college at eighteen or nineteen years of age?

There is probably a time in his life at which a student can best approach the study of any given subject. Psychologists know comparatively little about this matter, and I do not think they are in a position to dogmatize, but so much at least seems clear: any work which requires manual dexterity should not be put off until the student is too old. Those interested in the education of dentists, for example, like to draw their students from manual training schools, where they have been early practiced in the handling of tools. Possibly this point is worthy of consideration when one takes up the question of surgery, but how far it may there be of importance, I do not know. In medicine, law, and theology, however, it does not apparently make the student less efficient as an individual to delay the time of his entering upon professional studies until after he has had a very thorough preliminary education. Indeed, it seems as though all his previous mental training directly aided him in his new work, and made him a more efficient man in it. Hence, in these professions I can see no objection, from the point of view of the individual, looking at him merely as an intellectual machine, to a prolongation, if I may so speak, of the period of his infancy. Of course, if prolonged study gives him a distaste for the practical work of later life, it does him some harm.

I cannot but regard, however, the other half of the question which I am discussing as much the more important half, that is, the effect of such a prolongation of tutelage upon the community. Those who serve the world in the learned professions should be men of ability, and not merely men who have been well taught. They should be picked men, and picked with a

view to the value of their services to the community, and not merely to themselves. The true selective principle should be that brought forward by Plato in his Republic; and I think we can all agree with Plato in holding that the servants of the State should be chosen with a view to their fitness for the positions they are to occupy.

Now, if we defer the age at which candidates for the professions may enter them, we restrict competition, for the simple reason that many of the ablest students are poor, and are compelled to be self-supporting at a comparatively early age. If these are to be ruled out, the test of fitness to enter and practice a profession becomes the possession of wealth, or comparative wealth, and we have here something resembling a monopoly. For many years past I have remarked that numbers of our ablest students, who would like to enter the professions, and yet are determined to have a college education whatever else they may have, are diverted from their aim by the pecuniary difficulties with which they meet. Any principle of selection which reserves the highest places in the service of the State to the sons of rich men, is a principle which cannot but work harm.

To illustrate this point, let us consider the average age of the students who have entered the freshman class in the college of the University of Pennsylvania during the past two years. It does not differ greatly from that at which students enter other leading institutions. In the year 1894–95 the average age of our freshman at entering was eighteen years and five months, and in the year 1895–96, it was eighteen years and seven months. These are true averages, and I find little difference in the different courses. Now a student who enters college when he is eighteen and a half years old cannot graduate in law or medicine or theology until he is at least twenty-five and a half years old. If he is a student of medicine he must then spend at least one year in hospital practice, and students of medicine and law must, unless in exceptional cases, look forward to a long period of waiting before they have an established practice in their professions. This means that they are almost thirty before they are fairly established in life; and it is a serious question whether, in producing such practitioners, we may not have eliminated a very large part of our best material.

Dr. Eliott has advocated the admission to college of young men at the age of eighteen. This appears to me too old, and for the reasons which I have just given. A further reason,

and one which I cannot but consider an important one, is that the courses in our schools of law and medicine, at least, will probably be lengthened. Many of us have seen the course in medicine increased from two years to three, and then to four. The course is even now so crowded that our students are greatly overworked. I expect to see this course increased by still a year. And as for our course in law, that, too, is undergoing an evolution. I should not be surprised to see it, after some years, increased from three years to four. As to the future of our theological schools I can scarcely venture an opinion. It is, however, important to note that there is a constant tendency to increase the amount of work done in our professional and technical schools; and for the protection of the health of the student there seems to be nothing for us to do except to lengthen the courses.

I must therefore favor diminishing the age at which students enter college. I should regret to see the present tendency to omit the college altogether, and to go directly from the school to professional work, increased, and yet I believe that it will be increased unless some steps are taken to counteract the evil which I have been discussing.

The age of entering college might be diminished either: (1) by lowering the entrance requirements, or increasing the efficiency of the work done in the schools; or else (2) by building up liberal foundations with the purpose of aiding our ablest students to hold out in the struggle until they may attain their highest aim. This last suggestion is not new. It is, after all, a modification of the plan suggested by Plato for securing efficient servants for the State. Unless something of this sort is done, I feel very sure we shall be giving our most responsible positions to many who do not deserve them and cannot claim them upon any rational ground.

PRESIDENT DANIEL C. GILMAN,
The Johns Hopkins University.

LADIES AND GENTLEMEN: In taking part in this discussion I find three difficulties: First, so many suggestions have already been thrown out that my mind is a little confused as to the one on which emphasis should be given; second, I am well aware, as you are, that we are not in any sense a legislative body and, if we are all agreed upon certain principles, we cannot pronounce

them in such a way as to secure their adoption even by the faculties and the trustees whom we may be supposed to represent; and third, the problem is a very different one for the president of Harvard University—the oldest, the most completely endowed, the most varied of all the universities of this land, surrounded by a large number of admirable fitting schools, and drawing scholars from every part of the land—from what it is for some of those before me who live in institutions that are inadequately endowed, have no "feeders" to speak of, perhaps maintain their own preparatory classes, and are fettered by a great many political or ecclesiastical considerations not felt in Cambridge.

If I see the situation clearly, we are all agreed upon one thing, that somewhere or other there is a great loss of time; and we are after more "rapid transit." [Laughter.] I repeat it—somewhere or other there is a great loss of time, and we are not quite sure where it occurs or on whom the responsibility rests. I am inclined to accept the view that I saw presented this morning in an editorial article of the Philadelphia *Press*, where the writer proceeds to say that the difficulty is prior to the college age, and not after it: the loss of time is in the schools antecedent to the college, and there is where we are to seek for the remedy.

I do not know how many of you looked into this matter; but it has been brought to my attention in many ways. Let me give you two illustrations: A friend said to me the other day, "I have sent my boy to Germany to get the discipline of the gymnasium instead of sending him to any American college." I said, "Don't you expect him to grow up an American citizen, and is it not best for him to be one of us in early life as well as later?" "Yes," he said, "but see what I have to pay for it. I shall carry him through the German gymnasium and bring him back to this country for his professional education and in entering active life he will be three or four years in advance of the young men who stay here." The speaker was highly educated and well informed. I recall the address that Professor Goodwin, of Harvard College, gave a few years ago before the Phi Beta Kappa Society—showing by a careful study of schools in this country and abroad how much time is lost before our youth enter college. These opinions and facts should be borne in mind.

How can we remedy the evil? I really do not know. I can do but little, where I dwell, in bringing about such changes as I

should like to see, because there are certain usages of the schools, certain wishes of the parents, certain comradeships among colleges, which make it extremely difficult, if one has a wish, to secure the adoption of remedies. But if personal suggestions are of any value, you are welcome to them.

My own belief is that it is important to keep constantly in mind three distinct periods in education, conveniently known as the school, the college, and the university. With the college the higher scientific schools are parallel. In the university, professional schools are included, as well as chairs of advanced instruction in many liberal arts and sciences. The time lost can be most readily recovered from the school period. Boys should enter college on the average at sixteen, so that they may graduate at twenty, and then have a year or more of post-graduate instruction, or enter upon long courses of professional training. The colleges should co-operate with the fitting schools in two ways,—first by simplifying the conditions of admission, and second, by making the examinations for entrance tests of ability to pursue the college course rather than tests of knowledge acquired in the preparatory school. If I may borrow the phrases of chemistry the examination should be rather qualitative than quantitative. Ability rather than acquisition should be the point of the inquiry. But these suggestions cannot be unfolded in a brief speech. I only repeat that if we wish to extend the benefits of a liberal collegiate education to larger numbers, and if we wish to secure a larger percentage of college graduates in the schools of law, medicine and science, we must confer the baccalaureate degree at an earlier age than is now common. School should end at sixteen years (on the average) for boys who are going to college.

CHANCELLOR W. J. HOLLAND,
Western University of Pennsylvania.

MR. PRESIDENT, LADIES AND GENTLEMEN: This is a large and difficult subject. I do not think that it is at all possible for me, in the few minutes that are at my disposal, to do justice to it, and you will therefore pardon me if I only throw out a few suggestions which occur to me, and without any particular regard to logical order.

A mania for "raising the standard," as it is called, has been for the last fifteen years sweeping like a tidal wave over the

educational institutions of the country. It originated—I shall not say where. [Laughter.] It has spread, and has infected not only our colleges, but our secondary schools likewise. We have been interested, and at times somewhat alarmed, spectators of a rivalry going on between different institutions for the purpose of providing a community hungering and thirsting for knowledge and culture with the staple which they require. One institution, impressed, perhaps, with the unsatisfactory nature of results achieved, and filled, perhaps, with the laudable ambition to do better, has announced that it has "raised its standard." A neighboring institution, not to be outdone in good works, has announced in the year following that it likewise has "raised its standard." A sister institution has followed suit. The first returns to the charge, and again "raises its standard," until at last, in this emulative process, affairs have reached such a pitch that a friend of mine, himself the graduate of one of the oldest colleges in the United States, who has two sons whom he wishes to educate, informed me the other day that he was beginning to despair his ability to get his boys into college, and had reached the conclusion that a deliberate conspiracy has been formed by the authorities of the colleges to force young men to secure a liberal education before matriculating, in order that they may devote themselves unreservedly during the four years of their college course to football and baseball. [Applause.] Of course there is a measure of exaggeration in this view of the matter. [Laughter.] Nevertheless, I suspect there is a wee bit of truth in the general idea he expressed. We cannot avoid feeling that there is an impression, which is growing very general among observers, that the requirements for admission to the better class of our colleges are higher than they ought to be. This is one side of the question.

But there is another view of the matter. A college president on the train yesterday evening said to me: "There are two questions I should like to ask. The first one is, 'When will the colleges of our State' (meaning Pennsylvania) 'determine upon a uniform standard for entrance requirements?' The second is like unto it: 'When, having adopted a uniform standard, will they agree to live up to it?'" These are important questions. In fact, there is only approximate uniformity among the colleges in the matter under discussion. When we

speak of the standards of admission to colleges we speak of something which is very poorly and vaguely defined in practice. This is a side of the subject which necessarily engages the attention of those who are at the head of the preparatory schools, who deserve our sympathies, in view of the hazy complexion of the horizon before them.

Let us glance a moment toward the past. The average age for admission to the collegiate departments of Harvard, Yale, Princeton, the University of Pennsylvania and the university which I have the honor of representing, is at the present time eighteen years and six months. I have been impressed with the fact that a great change has taken place in the age of admission and graduation in our colleges in the past twenty-five or thirty years. I have been a little curious, perhaps impertinently so, in looking up the records of the distinguished gentlemen who have been announced as certain to participate in this conference. Upon consulting an encyclopedia which professes to contain the biographies of the most eminent living Americans, I discover that the distinguished president of Harvard College, who is with us to-day, graduated in the arts when he was nineteen. [Laughter and applause.] I discover that the genial vice-provost of the University of Pennsylvania graduated when he was nineteen. The president of Princeton College graduated when he was twenty. The president of Johns Hopkins University was a rather old fellow when he took his first degree; it was about the twenty-first anniversary of his birthday. I graduated myself when I was twenty. I have discovered, looking into the ranks of those who have attained to eminence in political life, that the most of them were "caught young"— as some one has said it is necessary to catch a Scotchman if you are to make anything out of him. John Adams graduated at the age of nineteen, John Quincy Adams at the age of twenty, and Charles Francis Adams at the age of eighteen. They had not "raised the standard" at Harvard when they entered. The last President of the United States who was a college graduate, Benjamin Harrison, graduated when he was nineteen. I have not had time to go as deeply into the biographical mine as I would like to go in pursuit of facts such as I have stated, and have confined myself largely to the graduate list of my own alma mater, Amherst. I discover here that a very large percentage of those

who have had time to test the worth of collegiate training, and who may be fairly reckoned as the eminently successful graduates of that institution, were relatively young when they took their first degree. Now, I submit, with all respect for the wisdom of those who are directing the affairs of our colleges, that a system which yielded such abundant results in the past, and gave to our country the men who to-day are manning the State and directing the affairs of our educational life, was a system which possessed merit. I call in question the propriety of altogether rejecting it in quest of something which has only the promise of being better. I believe it is desirable that young men should get through with the training which the old-fashioned college course gives by the time they are twenty. I am a firm believer in the merits of that particular form of training. I believe there is nothing better, in a general way, than the old-fashioned curriculum, made up of studies in Greek, Latin and the mathematics. But I cannot see why American youth should be kept upon that kind of training after they are twenty, as is now being done in many places. Of course, there are young people who get awake late in life. There are, perhaps, more of such in the region where I live than in many other places. In Western Pennsylvania a hundred years ago they were fighting Indians and being scalped by them, and we do not yet possess those great and wealthy foundations which are found in the older and longer settled communities of the Eastern seaboard. Our institutions are comparatively young as yet. I do not forget that the institution which I have the honor of representing was, with one exception, the first school founded on the continent west of the Appalachian mountain ranges. And yet I discover that even with us, in spite of the fact that we do not possess the wealth and ancient foundations you have here, it is possible for us to so educate young men that they may enter upon the studies of a college course by the time they are fifteen and sixteen. This is what ought to be done. I am quite in accord with our honored friend, the Commissioner of Education of the United States, in the view he has advanced on this topic.

There is another matter on which I have a word to say. It seems to me that there is great confusion of thought in reference to the respective functions and the sphere of the several

grades of institutions. A preparatory school is one thing, a college is another thing, a university is another thing. I have heard it said that "the colleges are becoming universities." I trust this is not the case. If they are, it is a mistake. There is a distinct need of colleges in this country. Let institutions which have colleges of the liberal arts, or which were originally only colleges of the liberal arts, add to them university courses if you please, or let universities add college courses if you please, but do not let the attempt be made to turn our colleges into universities. We need the colleges. I claim that the form of culture for which they stand is most necessary, most humanizing, most useful. If I were Czar, I would make it the law that no man should practice medicine in Pennsylvania or any other State, no man should practice law, no man should stand in a pulpit, who had not received that broad, liberal training which is imparted by the old-fashioned college course. If students desire to specialize after having received a collegiate training, let them do so, and the universities will make provision for such specialized study; but let the collegiate training have the first place. Of course there have been men eminent in science, in all of the professions, who did not have the benefit of such collegiate training in early life, but nevertheless I insist upon its usefulness.

If, however, you so raise the standards of admission to the collegiate courses as to bring them to a university level, you make it impossible for men who would otherwise obtain a collegiate education to get it. The professions are being sought every day by men without collegiate education. I am met every week by men who tell me, "My son has not had the advantages of a collegiate course, but I desire him to enter the medical department of the university," or it may be "the law department." Well, what am I, the head of the university, to say to such a man? If I could, I would remand the young man to the collegiate department to obtain the training in the arts which he surely needs; but I am compelled to accept him on the certificate of his graduation in a high school, or upon an examination equivalent to what such graduation calls for. After all, that is not as bad as it might at first appear. And this brings me to the fact that these high schools, these preparatory schools, are invading the sphere of the college. The Central High School of the city in which I live turns out its

graduates to-day almost as far advanced upon the college course as it existed twenty-five years ago as was the young man who had completed the studies of the sophomore year in Amherst or Yale.

Is it, however, desirable that the high schools and academies should thus invade the field of the colleges? I think the solution of the problem suggested by Dr. Harris is the proper one. I would like to see our high schools, at least in the larger cities, compelled to make provision systematically for the preparation of those students for college who may desire to go to college. They may go as much beyond that for others as seems best, but they should keep in the college preparatory course to strictly preparatory work. Then I would have a law passed forbidding high schools to confer degrees in the arts. [Applause.] This is at the present time only allowed in one high school in this Commonwealth, but it is a grievous anomaly. It illustrates the carelessness of legislators. Their carelessness is, however, illustrated abundantly in such matters. It is a fact that one hundred and twenty institutions in this Commonwealth have been by law authorized to confer degrees in the liberal arts. Among them are a score of institutions the mere mention of the names of which is an offence to those who are the friends of sound learning and solid educational work. I may cite the case of a "university," so called, the faculty of which consists of a man and his wife, which gravely announced through the columns of the press that its faculty had recently conferred the degree of LL. D. upon the President. [Laughter.] I might go on at length, and entertain you by the half hour in reciting some of the dreadful things relating to education and the cause of culture which have come to the knowledge of the College and University Council of the State during recent investigations, but I have taken enough of your time, and will desist.

PRESIDENT M. CAREY THOMAS,

Bryn Mawr College.

Before beginning what I have to say, I wish to express my thanks to President Eliot for saying that, in his opinion, the work of the high school that fits for college and the work of

the high school that does not fit for college should be one and the same. Although I have held this view for years, I have never before heard it so clearly stated. If the studies required for entrance to college are, as I believe they should be, the studies that are the most truly educational, whether the boy or girl is to be prepared to enter upon the struggle for existence directly on leaving the high school, or only secondarily after four years of additional training in college, then the interests of the primary school teacher, the high school teacher and the college professor are indissolubly united and the subject we have been asked to discuss this afternoon becomes one of paramount importance. This question as to whether the present college entrance requirements shall, or shall not, be lowered seems to me to resolve itself in reality into two other questions: first, is it possible for the present college entrance requirements, and, to put the question in its extreme form, I will say the highest entrance requirements at present made by any college or university in the United States, to be met without strain before the age of eighteen or nineteen; and second, is it desirable that a boy or girl should enter college before the age of eighteen? The answer to this latter question seems to me to depend upon whether we are able so to improve our school education as to ensure some maturity of mind before the age of eighteen. But the answer to the first question is, I take it, the more important for our discussion. Indeed, the present advanced age of entering college could be the only reason for asking an association like this even to consider lowering the present college entrance requirements. I confess to a feeling of growing amazement when I see by reading the reports of educational associations and the discussions in the current magazines and reviews that the age of eighteen or nineteen, the present age of reaching the standard of high-grade college entrance examinations, is assumed as an *a priori* fact, to be dealt with like a law of Nature, while in the same breath it is stated, and undoubtedly correctly stated, that in France and Germany, and in England, if we include the prize men of the public schools, boys of seventeen are further advanced than American boys of nineteen. Yet no one who has worked for several years in the seminary of a German university can for a moment believe that the average American student is less intelligent than the average German student, or

that the ordinary American student, if given an equal scholarly equipment, will be able to make less use of his knowledge than the ordinary German student Why is it, then, that so much more time is consumed in this country in reaching so much less satisfactory results? The report of the Committee of Ten in its first table of primary and secondary schools assumes eighteen as the age of entering college, and states that even at this age the present college standard cannot be reached without a much better trained staff of teachers than our high schools now possess; yet I fail to find anywhere adequately emphasized the suggestion that better teaching might also reduce the unique amount of time required by the American boy or girl to cover these requirements. A study of foreign educational systems would lead us to believe that the advanced age (more usually nineteen than eighteen) at which the average American student now enters college is due not to the present entrance standard, but to the lack of adjustment, on the one hand, between the college and the fitting school, and, on the other, between the fitting school and the primary and grammar school; and I am glad to find that Dr. Brooks has so forcibly emphasized this lack of adjustment. The high school that fits for college, insufficiently organized and inadequately officered as it is at present, has had to take from the hand of the grammar school the overgrown, ill-educated, boy or girl at fourteen or fifteen, instead of at twelve or thirteen, and crowd into four years work that should have occupied six, or, more often, ten years. We are all familiar with the finished product of these successive misadjustments in the shockingly immature mind of the entrance candidate of nineteen, this man or woman in outward semblance, this babe in thought power. As from year to year I contemplate the spectacle of this crass immaturity (and I venture to believe that on account of our rigidly enforced high examination standard this immaturity is at least not more striking at Bryn Mawr than at other universities and colleges; indeed, I am told by those of our faculty who have taught elsewhere that it is less so, though to this I can scarcely give credit), I am at a loss to understand why any gathering of college presidents, professors and high school teachers should seriously consider increasing the present flagrant and melancholy state of things unless it has been proved beyond the possibility of a doubt that there is no other rem-

edy for the difficulty we are confronted with. If we undo the progress of the last half century, and lower by two, or even by one year, the present hardly won entrance requirements, we lower, in my opinion, by just so much, not only the work in all our colleges and universities, both undergraduate, graduate and professional, but we also lower correspondingly our secondary, and even our primary schools, and strike a blow at the very heart of our educational system from which it would not rally for years.

The solution lies, as it seems to me, in another direction, in the reorganization and recoördination of our school and college system. The college has not helped the fitting school by coöperation, by reasonable examinations, by careful grading of subjects according to their comparative difficulty; the fitting school has not controlled the work of the lower schools. Above all, the teachers of our lower schools have not been educated; or, if educated themselves, have not been free to use new methods. Secondary teaching is confessedly unsatisfactory. May it not, then, be at least a tenable position that the result we all deplore is an accident, not a primary educational fact?

My own experience as one of the original founders and managers of the Bryn Mawr College Preparatory School for Girls, in Baltimore, has shown me that it is abundantly possible, without overcrowding, in a ten years' graded course, beginning at six or seven and ending at sixteen or seventeen, to fit for the highest admission requirements prescribed by any American college or university, not only the pupils who desire to go to college, but all the members of successive school classes—a much more difficult feat. In order to make these requirements clear, I will define them in the terms of the "Conclusions as to uniform college entrance requirements" reached by the conferences held at Columbia College in February, 1896—I mean a college entrance examination that requires practically the entire Latin and mathematical requirement there recommended for 1898, two of the four alternative history requirements there specified; both the elementary and advanced requirements in two foreign languages, not Latin, there specified—Greek and French, or Greek and German, or German and French—three languages apart from English being always required; and two subjects entirely omitted by

the Columbia conferences, a difficult requirement in English and some one science, physiology, as it happens, being the one selected in the Bryn Mawr School.

Now, if this is easily possible in a place like Baltimore, in a private school for girls belonging to the leisure, I might almost say in speaking of girls, the idle classes, how much more possible ought it not to be in the public fitting schools where the tradition of hard work does not have to be created! A similar experiment would, I am satisfied, convince any one here present that in our discussion to-day we are dealing with an accidental, not an inevitable, fact. Undoubtedly boys or girls of sixteen or seventeen are less mature than those of nineteen; they are less mature by just these two years, but where actual attainments are equal there is only this age difference to deal with, and this additional maturity we would gladly do without, if the alternative be lowering our present entrance requirements, or shortening our present college course by one year. It is, moreover, in itself desirable for all boys and girls to be prepared to enter college without this two years' loss of time, and if all candidates were prepared at sixteen, as they are now prepared at nineteen, there would be no age difference.

We have not yet explained, and we have scarcely taken the first steps toward dealing with, the crass immaturity of mind of the boys and girls sent up from the fitting schools. The present methods of school instruction, the lack of liberally educated teachers, the emphasis until recently laid in college entrance examinations on memory rather than thought, are all only partial explanations; but immaturity apart, I am confident that the present highest entrance requirements, those of the classical course of Table IV of the report of the Committee of Ten, and even higher requirements than these, are easily attainable at sixteen, if no time be lost in the primary or grammar grades. I believe that it would be entirely feasible for all the colleges belonging to this association to give notice that ten years hence no student over sixteen years of age would be received into their freshman class, and at the end of the ten years to have as large entering classes as at present. Some such drastic measure would compel the primary and grammar schools to equip themselves with an educated teaching staff and a reasonable curriculum.

One remedy for this immaturity on entering college has been suggested by President Eliot, in his address before the Harvard Teachers' Association in last March, although with the tendency of the address as a whole I find myself at variance. He speaks there of the necessity of a reasonable method of attaching values to entrance examination subjects, with due reference to the time necessary for preparation in the respective subjects. We have thus a means of directly controlling the fitting school, and not only the fitting school, but the tributary primary and grammar school. Instead of lamenting over the unspeakably bad English of our college entrance examinations, let us in the entrance examination rate English as double in value to Latin or mathematics or any other subject, and it will then be worth while for schools to give it its due importance. If it must be studied from the cradle to the grave, if it is the instrument without which all other knowledge is ineffective, let us recognize this fact in our colleges, and our schools will fall into line. Let us do the same in all subjects, for example, in Greek and French and German. A series of experiments in the fitting schools I know best has convinced me that for a pupil who is studying Latin a knowledge of Greek, such as is required in the highest college entrance requirements, takes practically the same time to acquire as a fairly accurate reading knowledge of either French or German. If this be true, if time is the only test (and for the fitting school time *is* the main test), let us give it the same value in the examination, and no more.

Here, however, we reach a consideration that must give us pause. In the wider range of electives that may be accepted in the future for admission to college, are we sure that all subjects have the same educational value; that all subjects, if equally well taught, equally well train the mind to think? I understand President Eliot, in the address I have referred to, to incline strongly to an affirmative answer. It is true that any subject can be made as difficult as any other by requiring more of it; and if we are to accept all subjects as equal in value, merely requiring more of subjects intrinsically easy, and less of subjects intrinsically difficult, then indeed education is so simple a matter that he who runs may read. But I think not. The time requirement of all subjects may undoubtedly be

made equal by a little ingenuity, but do all subjects give the same mental discipline? In endeavoring to determine this question, on whose answer, it seems to me, depends the intellectual grasp and power of the future generation of school and college students, lies the most profound work of this association.

CHANCELLOR MACCRACKEN,
New York University.

MR. CHAIRMAN, LADIES AND GENTLEMEN: I followed with greatest heartiness the expressions of those who have spoken this afternoon, who have treated this question as one affecting our whole country. I know not who should be interested in the whole country if not the universities and colleges. I am ready to confess, as one who has been connected with educational work for a generation, that I have had too little interest in the welfare of this great land of ours, in its entirety, in what I have done, or tried to do, in the matter of higher training. And yet it seems to me that we, who especially undertake to prepare men for what are called the liberal professions (by which I understand those professions which depreciate material gains as their object) among all our millions ought to be those most altruistic, or, if you please, most patriotic, in our theories and practices with reference to higher education. But as I have studied our universities and colleges, and have been a worker in them East and West, I fear that our motto has been too much "Every one for himself."

Now, I could subscribe to some of the ideals put forth this afternoon as unexceptionable; but my difficulty is, I do not find them practicable. We are all agreed about some things—we are all agreed that there is needed some change in this matter. I have not heard any speaker to-day that has expressed himself as satisfied. While I can contribute no new facts or knowledge upon this subject, I want to lead up to a solution that has commended itself to me somewhat differing from any that has been proposed here this afternoon. I want a solution that will meet some of those facts that have been so vividly presented. The first of these is the great diversity in our secondary and high schools. There are many preparatory and high schools that are entirely equal to doing the

science work required in our leading colleges for entrance. There are high schools that are as good as many of the colleges in the United States. There are some high schools that aim to be colleges, supported by city money, as in our city of New York, and perhaps in this city of Philadelphia and other great cities of the country. I do not know that we can or ought to do anything to prevent them. On the other hand, I know one great county in New York State where there is not a town of five thousand of population; I know of one township after another there with a central-lying village of two or three thousand people, who have attempted to set up a union high school. They are a most intelligent population, and yet what union school can be supported in any one of those townships that is capable of doing the work in science recommended to be done in Pittsburg or Philadelphia? We must recognize these great diversities among the preparatory and high schools of our country. The spirit of altruism that I spoke of—the spirit of looking after the welfare of our neighbors as well as ourselves—must cause us to remember these communities when we come to form definite opinions as to this question.

Second, we must consider the two or three hundred struggling small colleges, founded and supported by how much sacrifice. We want in this matter to take into account the interests of those colleges—especially of the South, the Southwest, and perhaps of a portion of the West. Third, consider also the professional schools. The largest part of the university that I serve has been its professional schools. By far the greater number of our students of medicine or of law have been men without any pretence to even a partial college education; and if that is true in the metropolis of our country—and I believe it is true of all the medical schools there, and of all the law schools—it must be so also in the newer cities of our land.

We must consider all these interests. And this leads me to the suggestion of a remedy. I do not offer it as by any means a complete remedy. The remedy is this: Without diminishing in any measure the entrance requirements as they are put forth now by Harvard, Yale and the foremost colleges (those entrance requirements are none too high for a three years' college course), I would have all of the colleges that are so situ-

ated that they must do so, offer a preliminary year; so that they would be doing over, perhaps, the very work that is done in the Philadelphia High School or the Pittsburg High School. They would thus be doing work that is not done, and cannot be done, in the schools of the little towns through the agricultural counties even of the great States of Pennsylvania and New York. This preliminary year would be, after all, just the freshman year of two hundred or three hundred colleges here in these United States. I am hardly prepared to go with President Eliot, of Harvard, in allowing quite as much election as his scheme would seem to offer. I thought he was ready to allow men, if they only came with enough of chemistry and physics and mathematics and some English, to bring no other language except their native tongue. I am hardly ready to go that far. I would adhere substantially to the entrance requirements as they are now in our leading foundations. I would change, however, the whole attitude of the college toward this matter of the required four years' course.

And now only one point more before I sit down, and that is a very practical question with reference to technological schools that has been brought up here this afternoon. I would not make the technological school the parallel of the college as to a three years', or even a four years' course. I agree with the speaker who said that the school of engineering, or the school of architecture, is as much a professional school as the school of medicine or of law. I should say the same also of the school of pedagogy. Hence I would prolong the courses of the technological school so there should be one, or two, or even three years over and above what is ordinarily known as the college bachelor of science course. Then we will by no means be doing any injustice to this technological interest by shortening our college course to the three years instead of the present required four. [Applause.]

At the close of the afternoon session supper was served the delegates by the University of Pennsylvania, in the Library Building.

THIRD SESSION.

The third session of the convention was held at the Philadelphia Normal School for Girls.

There was a very large audience present. Many who came were unable to gain admittance. After the session the delegates were given an opportunity to examine the work of the Normal School.

DR. WILLIAM T. HARRIS, United States Commissioner of Education, was asked to preside and said: "You have welcomed us this evening, a body of college presidents and college professors, and principals and professors in preparatory schools, to the beautiful hall in one of the finest public school buildings in the world. As the commencement to your exercises this evening, I shall introduce to you one of your citizens easily known to you, who will make the speech of welcome in the absence of Mr. Gratz, the President of the School Board, who has not been able to appear, Dr. Edward Brooks, Superintendent of Public Schools of Philadelphia, who will now address you."

ADDRESS OF WELCOME.

DR. EDWARD BROOKS,

Superintendent of Public Schools of Philadelphia.

MR. CHAIRMAN, LADIES AND GENTLEMEN: In the absence of Mr. Gratz, the Acting President of the Board of Education and the Chairman of the Committee on this Normal School, I have been asked to say a few words of welcome to those of you who are here assembled this evening, especially to the convention which honors our city by its presence to-day and to-night. In the discharge of this duty—representing the Board of Education, the Committee on this School, the faculty and teachers of the Normal School, and, I may add, the principals and teachers of the elementary schools in Philadelphia—it gives me very great pleasure to extend a cordial welcome to the Association of Colleges and Preparatory Schools of the Middle States and Maryland on this occasion and in this building. The teachers of Philadelphia, both elementary and higher, have reason to felicitate themselves that this convention has assembled in Philadelphia on this occasion and at this time; especially, because in this city there is an interest in culture, higher and lower, deep and abiding, the very atmosphere being charged with educational electricity. But not only that; I think that we may congratulate ourselves that they have selected this building for this evening's meeting.

not merely because it is one of the handsomest city normal schools in this country or the world, and one of the best equipped for its work, but because of the significance of an association of colleges and preparatory schools meeting in a building which is dedicated to the interests of public education. Throughout the history of the world, birth and riches have divided the human race into what a very eloquent and eminent candidate for a very high position has recently emphasized into "the classes and the masses." There has been an aristocracy of birth and of wealth, and even of intellect, in days gone by. The meeting of this Association of Colleges and Preparatory Schools in this building devoted to popular education is significant of the fact that in the republic of education there is no aristocracy founded upon birth or riches, but that we meet upon the great democratic plane of equality, of common interest, where the university can reach down and take by the hand the teacher of the elementary school, and where the teacher of the elementary school can look up with pride and interest and sympathy toward the great universities, the colleges and the preparatory schools. I think that is one of the most impressive thoughts connected with the meeting of this association to-night in this school dedicated to the interests of elementary education; and it illustrates, too, a fact that is prominent in this city to-day. A few years ago there was an apparent lack of sympathy between the higher institutions of education and the elementary schools in Philadelphia. Four or five years ago there was hardly a teacher of the public schools of this city that came in any way in sympathetic touch with the University of Pennsylvania—the representative of higher education in Philadelphia. I believe that if we could analyze the sentiments of those who presided in that institution, there was but little sympathy on their part with the elementary schools; and if we could analyze the feelings of those connected with the elementary schools, there was but little interest on their part in the University of Pennsylvania. But a great change has come over us. During the last year one hundred and fifty teachers of the elementary schools of this city were receiving instruction in the University of Pennsylvania. [Applause.] The light of knowledge kindled there is coming down into the elementary schools, and the interest of the elementary schools is turning toward this source of educa-

tional light; and to-day we are in sympathetic touch from the very lowest work of the elementary schools, the kindergartens, to the highest educational interests in Philadelphia, the University. We are seeing more clearly that education is a chain, beginning in the kindergarten and passing from the kindergartens to the elementary schools, the high schools, the colleges, the university; that these are all golden links in the great chain of advancing civilization, which is based upon a correct theory of education. And it is on this account, and with these feelings, that I especially extend a cordial welcome to this association this evening. [Applause.]

PRESIDENT MACKENZIE was then introduced by the National Commissioner of Education, Dr. W. T. Harris, and read his address, "Democracy in Education."

DEMOCRACY IN EDUCATION.

A constantly increasing current of prejudice and passion has been washing away some of the foundation walls of our Republic, and until recently we have not heeded or known our peril. The chronic European unrest and revolt against all existing government has been quite ignored by our habitual optimism. We wonder to-day that the "Wheel and Grange," Populism, Henry Georgeism, Bellamyism, Altgeldism, Debsism, Coxeyism, and the long list of industrial riots, have not opened our eyes to the hydra-headed monster that has been crouching at the door. More marvelous still is the fact that the sermons of ignorant preachers, the speeches of shallow orators, the Fabian Essays of utopian pamphleteers, the pitiful notions of State paternalists, have remained so long unchallenged in Italy, France, Germany and America.

It is due primarily to a lack of *intelligence* that anarchy and socialism have joined hands. Ignorance of the past, and fallacies in finance and in political economy, have become the prolific mother of things envious, malicious and mendacious. If the perpetuity of our democracy rests upon morality and intelligence, and if it can be shown and is freely admitted that the majority of those who are aiming the fatal blow at the

present order of affairs are only *ignorant*, a body of representative teachers may with propriety contemplate their duties and responsibilities in the premises.

That Denver, with her splendid school system, and New Orleans, with her native Americanism, should have voted November third as they did; that old settled communities in any part of our land should have printed and spoken what they did on questions whose essence was moral and educational, justifies the strictures that have been made upon educated men, and in particular upon our educational system, public and private, elementary and superior. Not only thoughtful men at the New York Chamber of Commerce dinner, and elsewhere in our country, but also friendly and unfriendly foreign critics, have united the past six months in challenging the character of our early education, and in particular the segment of it we call secondary. The eminent French economist, M. Leroy Beaulieu, has endeavored to find the cause of our recent social upheaval in our educational condition, declaring that the high schools and academies wherein a general culture should be given, have failed because of the unequal qualifications of teachers, inadequate provision for these schools in many parts of the country, and especially because of the limited number of pupils who reach or complete the course of study. This same critic notes that *actual illiteracy has little to do with the results deplored*, for in Kansas, where the illiteracy is only twenty-nine in a thousand, and in Nebraska, where it is but twenty-eight in a thousand, the economic heresy is noticeably bad. A distinguished Philadelphian arraigns our system of public education in the following very plain language:

"That there are millions of people taught in the schools of our country who believe that it is in the power of the government, by calling fifty cents a dollar, to make it a dollar, certainly indicates that the education of these people has been grossly defective. They have wasted perhaps two years in teaching the child grammar (one of the most fruitless of studies), and they have left him ignorant of the essential things which he needs every day. The scholar does not know what a dollar is. He supposes it is something created by the government, and that it has just the value that the government chooses to assign to it.

"And the silver craze is a reproach to the moral teaching of our schools. The people ought to have been taught the primary principle of common honesty, ought to have learned that it is dishonest to borrow and then to repay only half of what was borrowed. Every intelligent child ought to understand what is the effect of such a transaction upon all commercial relations, upon credit at home and abroad; ought to understand that in no way can money be made so plentiful and so placed within the reach of the poor as by the prevalence of honesty and good faith.

"And the situation also suggests to us whether it was not a great mistake that the government, after the war, failed to establish a system of education through all the Southern States. A free country, a republican country, a country in which every man is a citizen, cannot afford popular ignorance."

George William Curtis relates that thirty years ago, walking on the Cliff at Newport with Bancroft, the historian, he asked him to what point he proposed to continue his history. Mr. Bancroft replied: "If I were an artist painting a picture of this ocean, my work would stop at the horizon. I can see no further. My history will stop with the adoption of the Constitution. All beyond that is experiment." But our New World democracy is no longer an experiment to one who knows history even tolerably well. The gradual rise of wages, the shortening of the hours of labor, the fall in the rate of interest, the division of profits in many commercial enterprises, the volume of deposits in our savings banks, and numerous other causes which demagogues and charlatans ignore, are hopefully at work to right wrongs under which labor has groaned for centuries. A campaign of education is a good thing, and an only savior in a political crisis, but education before a campaign is a better thing, and the sure besom of the half-truths of ignorance.

But Mr. Bancroft may have had a prevision of some of the things that a better education of the people would have precluded—things which even now we believe can be eliminated and eradicated only by a wiser universal education. His pessimism may have seen that after a hundred years our magazines and books would be gravely asking: "Has democracy failed? Have its promises been kept?" Even college presidents are in this year of our Lord eighteen hundred and

ninety-six rubbing the scales from their eyes and saying: "Just ahead are even worse evils than the silver fallacies." There is still too much grinding poverty, excessive selfishness, unchristian ignoring of the apparently "unfit." The advance from the refined heathenism of democratic Athens is too slight. We are all too prone to think, with Aristotle, "Equality is only for equals, and inequality for unequals"; that four-fifths of the people must endure slavery in some form, and the old Roman Privy Council must continue with the new names of Boss, Ring, Trust, Monopoly. It is pointed out that, in spite of the Declaration of Independence, a voter in New York wields twelve times the power wielded by one in Montana; that Texas, two hundred and twelve times the size of Rhode Island, can have no more power in the Senate than her smaller sister; that for years the minority in Maine, as well as south of the Mason and Dixon Line, has been substantially without representation in her halls of legislation; that, notwithstanding such luminaries as the University of Pennsylvania, Columbia and Harvard, the government of our cities has made the judicious weep and the patriot hide his face. With regard to office-holding, the example of the Father of His Country has always, religiously or satanically, been taken in a purely Pickwickian sense. And what shall be said of the universal debauch of our law-making powers? The statute-books groan, Governor Griggs tells us, under the weight of stupid, useless laws, passed to placate politicians with "pulls." But, facing all these things, we yet declare our need is not of less, but of more, democracy. As Lowell says, speaking of the passage of society from the militant to the industrial stage, beset by philistinism, marked by contempt of the past: "Our healing is not in the storm or whirlwind; it is not in monarchies or aristocracies, but will be revealed by the still, small voice that speaks to the conscience and the heart, prompting us to a wider, wiser humanity."

More truly than in any other land, the impulse to this wiser humanity must begin in our schools and colleges, and when given, all classes will exhibit the higher type of citizenship. Politics, the caucus, the convention, and office-holding will no longer be regarded as unholy things. The interest of educated men, of Christian men, will not need the spectre of the assassin of the State to bring out a full registration on Fifth

avenue and Rittenhouse square. No longer will a disappointed public opinion brand, as it has branded, our intelligence and morality with the words, "Faithless scholars, laggard colleges, bigoted pulpits." When the scope and methods of all our schools, from the least to the greatest, are inspired and guided by those of whom Emerson says, "They are the favorites of heaven and earth, the excellence of their country, the happiest of men," then we also will say "Amen" to the words of President Cleveland, "I believe it is not a superstitious sentiment that God has watched over our national life from its beginning. Who will say that the things worthy of God's regard and fostering care are unworthy of the touch of the wisest and best of men?"

The foregoing and similar references may produce misapprehension. The Princeton Sesquicentennial, with its glorious record of high service for the State by college men, the leadership of educated Puritanism in New England, the keynotes of Roger Williams, Samuel Adams, James Otis, John Morin Scott, and nearer by, the influence of Jay, Livingstone and Hamilton, is not forgotten. The story as you follow the movement of liberty everywhere is the same. John Pym in the English Commons, John Hampden in the field, John Milton in the Cabinet — the "three Johns," as they have been styled—with grim Oliver "purging England of royal despotism and avenging the slaughtered saints in Alpine mountains cold," were all children of Oxford and Cambridge.

The central purpose of this paper, given in the lull of our exceedingly important discussion about entrance examinations, is to suggest that our most highly educated men have sadly neglected the schools of the nation; that these schools need their friendly encouragement and counsel. And fundamental to all this is the conviction that the wiser citizenship, the imperative need of which has been glaringly revealed to all lovers of our country, can be attained mainly through the early school work thus inspired and directed. I do not forget that here and there college men have already done much in the direction suggested. The Summer School under the auspices of our universities and colleges, and the half dozen chairs of pedagogy to be found in our four hundred colleges, are leavening both the minds and methods of hosts of teachers. The personal work and influence of Presidents Eliot, Gilman,

Low, Angell, Hall, Schurman and others, speak eloquently of the possibilities of the colleges in the lower schools. It was a college president that induced a radical change in the character of our school readers, that scotched forever the barbarities of the old methods of teaching arithmetic; it was college men that compelled wiser methods and less time in the teaching of geography and grammar; and it is a college president who is opening our eyes and souls to the mysteries and possibilities of child-study. Universally it is true that where college men have had most to do with the schools of the people, there the schools have been most excellent. The extremes are suggested by the schools of Boston and Baltimore—or shall I say Michigan and Pennsylvania? Michigan's splendid record in articulating the public school system to university education is well known. Pennsylvania, on the other hand, has the lowest place among the North Atlantic States in the proportion of students who go to college. It is only twenty-seventh in the list of all the States, her credit being ninety-four college students in every hundred thousand of population. Who runs may read as he glances at the schools of St. Louis organized by Dr. William T. Harris, and the schools of New York under a different system. Indeed, there is reason to believe that the entire collegiate system of the State of New York would not have remained so nearly stationary for fifty years had the large army of college graduates in New York City done their plain duty by the public schools. The Tammany Tiger seems to have proved more puissant over the Bachelors of Art than over any other class of citizens.

Sometimes this influence of the college is exerted through superintendence and teaching; sometimes through committees and Boards of Education. It can always be exerted by the trained intelligence and character of educated men. If all these are wanting, an invariable result follows. As the mighty cathedral needs the impulse and direction of the gifted architect, so does an educational system need trained guidance, the unfailing co-operation of the highest learning. Yet what do we see? It is rare that a college-bred man is found on the Board of Education, or in the principalship of a high school, much less of a grammar school. And if we are looking to graduates of our normal schools for the supply of principals and superintendents, we are told that the normal schools of

the country could accommodate but one-fourth of the four hundred thousand teachers. What should we think if similar facts existed with regard to the training of our law, medical or theological students? One result of this state of affairs is the absence, the non-existence, of a professional body of teachers for the great mass of our fifteen million school children. Vainly do we seek a name for such a worker, calling him by turns teacher, educator, educationist, educationalist, and even pedagogue—a word that reminds us of the days when the teacher was the upper servant in a gentleman's family; and often before we hit upon the right title he is off to sell books or solicit insurance. But there is a standard, a genuine conviction, with regard to college work. No man or woman may or can be identified for long with our higher institutions without a full accrediting of his or her scholarship, and a resulting professional spirit; and this standard, this spirit, we would have extend to all who teach. All honor to the men, and especially the noble women, who have dedicated themselves to the sphere of educational work least rewarded and yet most important; but it were well to have aided and inspired them at critical moments in their lives to the largest possible usefulness. Some of us can recall that even in normal schools the largest furnishing for work was discouraged by non-collegiate teachers and directors of those institutions, though the strange anomaly was permitted them of having college preparatory courses.

I have not intended to intimate that the influence of the higher schools upon the lower would remove all that disappoints us, for I am mindful of such facts as that brought to light recently in cultivated Boston, that 71 per cent of the public school children know nothing of beans! This is not quite so bad a state as the Tammany schools of New York were found to be in at some recent civil service examinations. Only 35 per cent of the "fairly intelligent" men who presented themselves for examination passed the "elementary easy" questions. Of two hundred and ten who tried the question, "In which State is Chicago?" forty-three could not tell, one answer being that "Chicago is a State by itself." Forty could not give the name of a single New England State. One hundred and twenty-six could not tell the name of the law-making body of the United States, though one ventured the answer that it was the "martial law." The views of one of these candidates on

the subject of the "Causes of Crime" were summed up as follows: "Crimes does be done." The views of another were given in these enigmatical words: "The most of the principals has been drunk, crazy, and almost dead from endurance." And yet these men decide who shall make and execute our laws!

Every well-informed teacher and citizen knows that life in the country has been held back half a century by the sad state of our rural schools. The National Educational Association is moving hopefully at last for their betterment; and may the God of our country bless the efforts being made for the precious boys and girls in our rural schools! I refer to these schools now to illustrate the need of outside counsellors. For a hundred years our farmers have been content to perpetuate a senseless system in the care of roads and highways, involving an annual outlay estimated at forty million dollars. It is well known that this system would have continued to the end of time, had rural communities been left to their own devices. Not until the wisdom, enterprise and patriotism of the class of citizens who are now summoned to the support of our schools were enlisted could township committees and State agricultural societies be brought to a wiser use of the road-tax and to scientific road repair and construction. And the rural school, also, can be lifted up and divested of its anachronisms only by influences from without and above itself.

The first layers of educational soil must be made richer and deeper, that in all our schools our youth may ripen as plants, in an atmosphere of repose and quiet and earnestness, with a ruminating receptivity that sooner or later begets the humanistic temperament and that "orientation" which ensures the "crease" that determines the character of all subsequent acquisition and influence. It would not then matter so much whether the pupil advances to the higher studies. The elements of a right culture would be ground into the heart and life. The plethora of ill-digested facts so characteristic of our system suggests the paradoxical query whether the imparting of knowledge without the training to use it may not be adding to the sum total of ignorance. In a republic, certainly, "A little knowledge is a dangerous thing." Among the mottoes on our walls and in our copy-books should be the words of Milton: "A complete education is that which fits a man to per-

form justly, skillfully and magnanimously all the offices, both public and private, of peace and war." Such an education is concerned primarily not with what is taught, but by whom and how it is taught; not with what the pupil knows, but with what he loves. It is still a superstition with some people that boys and girls should be sent abroad to "finish." We do not always see the necessity of that. As things are, the more advisable course would be to send them there to "begin."

When we consider that our educational system is at least sixty years old, the progress made in all that is vital is disappointing, and challenges very serious attention. Notwithstanding our vaunted intelligence as revealed by the statistics of illiteracy, the report is too unfailing of incompetency, of the blighting touch of politics and of publishers of text-books at every point in the life of the schools, and of criminal apathy on the part of the public. No wonder one penitent soul says: "I shudder to think of the innocent victims who have been sacrificed"— meaning, of course, the children!

Our duty, then, seems clear. The schools are ours, and to them our children must be sent, and out of them must come our mothers and voters. Four hundred and thirty-nine millions of money have been invested in property, and one hundred and seventy-eight millions are spent annually in maintenance—double the per capita amount spent by the most enlightened European nation. It remains for our 450 universities and colleges, with their 17,000 instructors and annual enrollments of 200,000 students, graduating each year 30,000 men and women, to more generally and powerfully affect public opinion with regard to the work of education. Fortunately, in such an endeavor there can be no compulsion. But a true democracy will find countless ways of working. Horace Mann asked only for a free press and a free platform. A hundred men in our country the past fifty years, actuated by the spirit and intelligence of Horace Mann and Dr. Harris, whether as college professors, educated business or professional men, though without official authority, could have so leavened the public mind with regard to a true education for the masses, that the nation would have been spared many ills and failures she must now deplore. With very questionable wisdom, prosperous people are withdrawing their children from the nation's schools. It is little short of criminal to withdraw also their

active interest and support. The alluring prizes of our commercial and professional life are robbing halls of legislation of the brains and character of our foremost men. Shall selfishness and indifference keep these men from all contact with the work of education as well—except that experienced at the annual college dinner or football game?

Fortunately, there is in the country no single educational centre. Our higher institutions of learning are found wherever there are people needing them. In their work of supreme importance they cannot forget that but 5 per cent. of all school children reach the high school, and but 1 per cent. the college. Nor, on the other hand, can they forget that they and all their equipment are in a sacred sense mortgaged for the welfare of all the people by the history of their endowments. Packer, Pardee, Green, Rose, Stanford, Low, and Harrison, and the long roll of founders, were patriots, lovers of learning because they were lovers of their country. And yet if 400 of our 450 colleges were located in Africa, they could scarcely have done less directly and consciously for the work of public education. The college professors and presidents whose personal or official influence has been felt or consciously exerted in this vast work of educating one-fourth of all the population, can be counted on the fingers.

When the clouds gathered last July, men with a liberal education began to write and to speak in the press and from the platform, and the honest receptivity of the people was soon instructed. The mere crumbs from our college lectures convinced the people in two months with regard to the fundamental matters at issue: That labor is steadily gaining more and giving less; that, in spite of Malthus, subsistence increases more rapidly than population; that, after all, there are only five thousand dollars, all told, for each family in this country, or an annual income of three hundred dollars, and that therefore the wild schemes of anarchy are impossible; that a man, to be of any use to civilization, must earn in some way at least enough to pay his board; that society will always be divided by natural lines of taste, personal habits, mental culture, social antecedents and experience, and that neither man nor God would or could make it otherwise.

An impulse to this kind of public influence could be given by the establishment in every high-grade university of a de-

partment (not a chair) of pedagogy, with at least four or five specially trained men. Statistics might be secured to suggest that there are more lawyers and doctors than the world needs or can support, and that of the 400,000 places in the schools of the country a large number of them are most inspiring and quite as remunerative as the law in Philadelphia or medicine in New York. The lecture courses in history and economics, and the baccalaureate sermon, might enforce the truth more frequently that in a democracy the amalgam between man and man is not kinship nor caste, but fellow-citizen. If such an antecedent state of affairs existed between the lower and higher schools of the nation, the question of the entrance examination would appear simpler. Educated citizenship working in harmony with educational experts would then so align high school programs and college requirements that at last one of our longed-for ideals would be attained, and the schools of the people would be rationally, patriotically articulated with the colleges endowed by the money of the people.

And, inevitably, another result would follow this rallying around the schools by the more highly educated citizenship—business, professional and professorial. Democracy rests in a peculiar sense upon morality as well as upon intelligence, and though the latter is more properly our theme, the former may not be wholly neglected. When the late Governor Russell said, "I would rather cut off my right arm than utter a phrase that might array class against class or section against section," he was moved by a profound moral conviction not born of the arithmetic or grammar. President Gilman has in all seriousness asked the question whether religious people are not the real opponents of moral instruction in the schools. His suggestion that two or three of our leading universities (including the Catholic University) could agree upon the scope and character of moral and religious instruction of the nation's schools, must commend itself to every thoughtful mind. The ward politician and the sectional Boss cannot be expected to perform so delicate a task, and yet largely our seventy million people are vesting such elements with this and other matters that condition the character of our citizenship. No wonder the heresy that education should fit men to make money has leavened the minds of fifteen million children, and courses of study are often such rag-bag things ill-assorted. In an ultimate analysis of the matter, Colonel Parker is right, and his words

should go with Milton's: "I believe no teaching is worthy the name if it does not have a moral and ethical end. There are only two things to study—Man and Nature; there is only one person to study—the Creator of Man and Nature—God. Herein lies the path and goal of education."

Professor Leibig has affirmed that future history will record victories won with bloodless weapons, in a struggle wherein morals and religion participated only as feeble allies. It may be that morality does not figure in the discovery of a star, or of a new element in chemistry, but no vital gain in national life is possible without righteousness. That was a nobler confession of the converted apostle of atheism in Denmark, Professor Mhegard, of the University of Copenhagen, that "When the tempests of life had plunged him in sorrow, the cable of science broke like a thread, and thereafter he assigned science to another place in life."

Tenaciously, hopefully as we cling to democracy, and urge its extension, we recognize in it a mysterious power of which we know comparatively little, to be handled as we handle electricity or some dangerous explosive, a supreme difficulty consisting in the fact that we, as investigators, are a part of the thing to be investigated. But we are sure that universal education of the kind that I have imperfectly described, a democratization of all education, will divest democracy of something of its mystery and make it more serviceable to the race.

PRESIDENT MACKENZIE: Those of us who had the pleasure this afternoon of listening to Dr. Eliot's illuminating, stimulating address in the chapel of the University of Pennsylvania, extend to him this evening a very cordial welcome. I felicitate this large audience that he has consented, after a good deal of urgency by the Executive Committee, to appear here and to speak to you at this time. I have the honor to present to you President Eliot, of Harvard University.

PRESIDENT CHARLES W. ELIOT,
Harvard University.

You will of course excuse me at this late hour from saying a word about the technical subject which is set against my name on the program.

I desire, in the first place, to tell you what this beautiful building reminded me of, when I came to it this evening for the first time. More than sixty years ago the first normal school in the United States was founded through the exertions of a man whose name has been already mentioned by two speakers of the evening—Horace Mann, prophet, enthusiast and patriot—and this was the way it was done: He was Secretary of the Board of Education of Massachusetts; and for several years he had been trying to obtain from the legislature an appropriation for establishing a normal school to train the teachers of the Commonwealth; and every year he had failed. He could not even get a committee to recommend it to the legislature. He was trying again to persuade the Committee on Education to recommend to the legislature an appropriation for the establishment of a normal school. They were disinclined to do so; but at last the chairman of the committee said to him: "Mr. Mann, if you will get ten thousand dollars subscribed by citizens of the State for this normal school you talk to us about, we will recommend the State to give ten thousand dollars too." This was the first gleam of hope that Horace Mann had seen. He rushed out of the committee-room and down into State street; and there the first office he went into was the office of the treasurer and directors of a cotton mill established in Massachusetts. He told them what had just happened at the State House—how the committee had said to him that if he could get ten thousand dollars of private money subscribed in Massachusetts, the committee would recommend the State to appropriate a like sum; and he said, "Won't you help me, gentlemen?" One man in that room, the treasurer of the corporation, turned round to his desk, drew a check, and handed it to Mr. Mann. It was a check for ten thousand dollars. That well-doer's name was Edmund Dwight, a name still honored in the Commonwealth of Massachusetts. That was the way the first normal school was established in the United States. Massachusetts went first, and it was nearly twenty years afterward that a normal school was established in the State of Pennsylvania. But now let me point out how Pennsylvania has, within the last three or four years, got the lead—has taken wise action in regard to the normal schools ahead of Massachusetts. Here you have a normal school which is founded on three years in the

high school; and that admirable action was taken three years ago. And this school is soon to be founded on four years in the high school. You have gone first in that respect—in an admirable policy, on which I must heartily congratulate Dr. Brooks, the Superintendent of Schools in Philadelphia. [Applause.] It was only a year ago that the Massachusetts Board of Education resolved that the high school course should be required for admission to the normal schools of Massachusetts. I am happy to say that the good work is now accomplished. Where, in our little Commonwealth of Massachusetts, shall we find a normal school building like this? Nowhere! Pennsylvania has again led the way in normal education.

Let me turn for a moment to the excellent address which Dr. Mackenzie just read to us, and say a few words about the problem of education and democracy. It is a commonplace that education must be the safeguard of free institutions. But sometimes I think we are not quite comprehensive enough in our definition of education when we are considering it as the safeguard of free institutions. It is true that liberally educated men—that is, college men and women and professionally trained men and women—ought to be leaders of public opinion in a civilized commonwealth, ought to have more influence and power than the less educated classes; but I am persuaded that free institutions must rest on a far broader basis than the liberally educated men and women could furnish by themselves. They rest primarily on those schools which are the only schools of the immense majority of the people—that is, on the elementary schools. Those schools must supply the safeguards which are to preserve for us the free institutions we so much treasure; and, as Dr. Mackenzie has pointed out, it is through their influence on the lower grades of education that the highly educated men and women produce most effect in giving stability to the republic. The three "R's," as they are called, will not suffice, however, to guarantee freedom. I remember that thirty-three years ago, when I was a daily student at the great national library in Paris, there sat opposite me day after day an educated French gentleman whose subject was kindred to mine. At last he found out that I was an American, and began to talk to me about the influence of education on public liberty. It was in the wretched

days of the Second Empire in France, and he was full of anxiety about his country's future. He said to me: "Somehow or other, here in France, when our people learn to read, they only want to read the bad books." Now, that was a dreadful fear. That was the source of a profound distress in his mind as to the results of popular education in his own country. We must win something more than the power to read; we must acquire the taste for pure and elevating literature. This is what the public schools should implant in the millions of American children — the taste for pure and elevating literature. If they got nothing else at school, that alone would preserve the republic.

I have had frequent occasion to observe that it is not always those Americans who can best read and write that have the strongest, firmest character. Now, popular institutions of freedom and justice rest ultimately on the popular character, and not on the popular ability to read, write and cipher. I know an admirable treasurer of a New England town—treasurer for twenty years past because the most trusted citizen in the place—who will drive any day twenty miles to see a fellow-townsman rather than write him a note of five lines. But when I sat that man down one day at my table opposite the leader of the American bar, he held his own with that lawyer. He held it in two hours' talk about the affairs of the town and of the nation. Now, that man can only add, subtract, multiply and divide small numbers—that is all the arithmetic any of us need, by the way—[laughter], and he reads with some difficulty; yet he is a pillar of the town and of the republic. Let us never forget that what we most need from our schools is the development of high personal character. [Applause.] We need from them another thing not enough thought of. We need that they should be a great source of personal happiness to the children. The school should be the very best place the children ever go to, except their mother's arms. The school should be a source of pure delight. Happiness is the justification of free institutions, and happiness only—public and private prosperity and happiness; and that, indeed, is the only justification of the world we live in; for we shall never find a finer statement of the true objects of life than that contained in the superb answer to the first question in the Westminster Catechism: "What is the true end of man?" "To glorify God

and to *enjoy* Him forever." [Applause.] Human happiness, the happiness which glorifies God, is the object of human life. [Applause.]

FOURTH SESSION.

SATURDAY November 28.

Continuance of the Conference on College Entrance Requirements. The first address was made by :

PRESIDENT JACOB GOULD SCHURMAN,

Cornell University.

The subject before us is a somewhat general one, and it has been discussed already from a good many points of view. I don't know whether I can add any suggestion now to the wealth of suggestions which you have already received; and it occurred to me that perhaps it would be well, in order to give definiteness to what I have to say, and not for any other reason, if I explained in brief what we have done at Cornell University, and how the problems which are put upon this paper look to us from the Cornell point of view. At Cornell University we have a graduate department and an academic department (which is what many persons are in the habit of calling the college department)—we have, I say, a Graduate Department, an Academic Department, and a number of professional schools which we call colleges—a College of Law, a College of Civil Engineering, a College of Architecture, Sibley College of Mechanical and Electrical Engineering and the Colleges of Agriculture and Veterinary Science. From our point of view the question would be—the question on this paper would be—whether young men, before entering our professional colleges, should complete the four-year course in our academic department. I am anxious to put the problem in just that way because I think that some of the speakers have assumed that the old-fashioned classical college was in general, throughout this country, still in existence. Recalling my own experience as a boy in one of those colleges, I find it difficult at the present time to discover any

close analogue among the institutions of the United States. The old-fashioned college has been everywhere profoundly modified; and in the universities (Harvard as the type) the old-fashioned college has been completely transformed into what we call the academic department, although at Harvard they retain the old name of Harvard College. Why should a young man who is going to graduate, I will say in medicine, or in engineering, take a four-year course in the academic department? You see I put the problem in terms which are natural to us at Cornell; I am anxious to give definiteness to the discussion so far as I am concerned. If the young man proposes taking a course in medicine, he would find in the best institutions of the country that the professional course extends over four years. If he wishes to become a mechanical engineer, he would also find the professional course extending over four years. Now, a course in the academic department, terminating with the A. B. degree, also lasts four years. The question is whether he shall take that course before his professional course—whether he should study eight years, as some persons here are disposed to recommend.

The first thing to note is that the subjects of a medical or engineering course are in large part the same as those offered for elections in the A. B. course of the academic department. I mean that if a young man wishes to graduate, let us say in the College of Physicians and Surgeons in New York (which is now a department of Columbia University), or in the Harvard Medical School, he has a four-year course; of that course the subjects for the first two years are purely scientific studies. They are botany, chemistry, physiology, anatomy, bacteriology, pathology, microscopy, and the like. If a student enters the academic department in Cornell University, he may study all these subjects there for two years. The student in the medical department studies the same subjects two years. Why do you compel a man, because he proposes to study medicine, to take a four-year course in the academic department? You say for a liberal education, for discipline, for acquisition of mental power. But I do not understand why the scientific subjects I have mentioned are more fruitful of those beneficent results when you take them in the academic department than when you take them in the medical school, provided you have as good teaching in the one as in the other. Or, take the case of

mechanical engineering. I found on examination the other day at Cornell that just three-sevenths of the subjects required in the four-year course of mechanical engineering are devoted to physics, chemistry, English, French and other subjects in the academic department. Why should a student who proposes to be a mechanical engineer spend four years in the academic department? Of the subjects in his course, three-sevenths of them—three-sevenths of the subjects he is required to take as a mechanical engineer—are the same as those subjects which he would elect if he entered the academic department.

The problem seems to me, as it is formulated on this paper, not to take account of two very important changes: one is that the scientific and the professional courses of this country have been made much more thorough—if I may say so, much more scientific—than they used to be; and secondly, the college which we are now talking about (as though the college of a generation ago were still in existence) has disappeared, and what has taken its place might often be as justly compared with the modern scientific or professional course as with the old-fashioned classical course.

So great is the change. Yet I hope I shall not be misunderstood. Far be it from me to desire either to lower the standards for admission to the professions or to curtail the liberal education of the men who enter those professions. But I do feel that the remedy is not of the sort contemplated in these questions. Why is it—to look at the matter once more concretely—that a student of medicine or of mechanical engineering, who has gone at sixteen from the high school to his professional course, is not a liberally educated man? Is it because he does not know enough of the material world about him? He has studied physics and chemistry and the other sciences; and, so far as the universe about him is concerned, he knows that as well as your average college graduate—indeed, very much better. Yet we do feel there is something lacking. What is it? Why, besides the material world about us there is another world which for us is equally interesting, if not more so—the world of man, the world of the human spirit itself. And when we speak of these men as not liberally educated, I think what we have in mind is this—that they have not studied literature, or perhaps language, or history, or philosophy. Now, it seems to me that the cure for what you

have in mind when you speak of the illiberality of the education of physicians and of engineers is not to insist that they shall take a four-year course in the academic department, but to recommend them to take one or two years of study in it, devoting themselves not to the sciences of Nature, which they will require for their professional studies afterward, but to what we call the humanities—to language, to literature, to history, to political science, to philosophy, and the like. If I were advising a young man for whom I had any responsibility in this matter, and who was looking forward to being a physician or mechanical engineer, that is the advice I would give him. I would say, take a couple of years of humanistic study, and then go off to your professional work.

I turn now to the other subject: Shall the entrance requirements to our universities and colleges be lowered? Why should they be lowered? The only reason I have heard adduced on this platform which seemed to me to carry much strength with it was the suggestion that if they were not lowered, a large number of persons coming from the poorer families of the country would be excluded from the learned professions. That does not seem to me to describe the facts of the case. The professions are still open to this class of persons. The professions will not be shut to them even if they get no college education. They may go on and enter the professions precisely as at the present day; they can be lawyers or physicians or engineers even if they take no college course. If the public are ready to support the high schools (which can do as good work as the old-fashioned college did in its freshman or sophomore year), I do not see why we should deprive the public of that institution. It is in the interest of education that liberal provision should be made for the 95 per cent of the boys and girls of the high schools who never go to college; and if you cut down the college entrance requirements, or the requirements for admission to the scientific schools, then your policy will react on the curriculum of the high schools and lower the standards all along the line. At Cornell University over 80 per cent of all our students are from the high schools or public schools. We are anxious to keep in close touch with these institutions, and, in general, every course in Cornell University is correlated with a corresponding course in the high school or the preparatory school. For every course in Cornell

University—including even agriculture and veterinary medicine—a full high school course is now required as a preparation; and each one of these sets of entrance requirements is as difficult as any other set. For instance, a year or two ago the president of this association sent some nine boys from the Lawrenceville School to Cornell University; a number of them entered the Sibley College of Mechanical Engineering. I was asking Dr. Mackenzie whether he found it harder to prepare boys for the academic department at Harvard, and his answer was that it took just as long, and the boys had to work just as strenuously to prepare for the one course as for the other. I do not see, then, why this problem, the difficulty of which seems to press with great severity upon some persons in this association, could not in general be solved in some such fashion as we have solved it. I allow, of course, for different circumstances and conditions; I know that different colleges and universities must work out their own problems in their own ways; but in general I am inclined to believe that every college or university which depends, as Cornell University does, for its students on the public schools, must adapt its curriculum to the public schools; and we, in our departments, academic and professional, are now in close touch and correlation with these schools.

If, then, I were asked to answer the questions which have been put upon the program, I would say that I see no reason to deplore the advanced age at which the average student now enters college. If a boy when he enters Cornell University is eighteen or nineteen, I do not know why we should complain, because these boys, coming from such high schools as those of Brooklyn and Chicago, have had, during the last two years of their preparatory course, a more thorough education than I had in the freshman and sophomore year in an old-fashioned college. I studied chemistry and physics much as Professor Remsen did, but in my case that crude preparation has not made a great scientist out of me, as it did out of him. The advanced age at which college men now enter the professions, and the effect upon the individual and the community, present nothing which we should deplore. Age itself has lengthened. Men now at sixty, seventy, and even eighty, do what was undreamt of a generation ago. Society also is becoming more complex. It is perfectly natural, therefore, that men should

enter the learned professions older than they formerly did. The community gains much by having physicians who deal with their health, and lawyers who deal with their rights and their lives, and engineers who deal with the material forces which make life so much more agreeable to-day than it was a generation ago, thoroughly prepared for their work, both by preparatory studies and by ripeness of age, before they qualify to practice upon us. [Applause.]

Now, the gentlemen who framed this program, I believe, had in mind the old-fashioned classical college of a generation ago, such as I was brought up in; and in those days, it is quite true, that men who entered the learned professions (and the only learned professions I knew as a boy were theology, law and medicine) used to aim to take a college course. In the case of the clergyman it was almost imperative; in the case of the physician or the lawyer it was at least desirable. But with the advance which has been made by our high schools, as I have just pointed out, and with the modification of the professional course itself so that it now embraces much pure science, and therefore is not out of line with the work of the academic department—why should you deplore it so much if all your boys do not take a college course before beginning their professional course?

Should the present standard of college entrance requirements be lowered through concerted action? I hope not. We have been pushing up the entrance requirements until we have got them at a somewhat satisfactory point. I know no reason why the entrance requirements should be lowered except one —namely, that the high schools of the country are unable to prepare boys to pass those examinations. Or, putting it otherwise, if the courses which the educators of this country lay out as ideal curricula for the high schools—for the 90 or 95 per cent of boys and girls who never go to college—if these courses cannot carry boys and girls far enough to meet the demands of the colleges and universities—then, of course, the demands of the colleges and universities should be lowered. But so far as my observation and experience go, no such demand as that comes from the high schools; on the contrary, they feel, as a rule, quite competent to meet the demand which the colleges and universities are making upon them. My answer, therefore, to your inquiry is an emphatic negative.

"A partial reorganization of our public school system, with a view to its more perfect articulation with our colleges." Here I part company with some of our college men and take my place by the side of the public school educators of the country. You may begin with an ideal scheme of education, somewhat in the style of the learned Commissioner of Education, and you may say knowledge divides itself into five typical branches, and every one of these is an eye through which the student gains a new vision of the world about him—the world of nature and the world of human life; and no one is completely educated who has not had every one of these eyes trained—the literary, the mathematical, the historical, the philosophical, the scientific and the like. And if you take such a view of the college course, you will want a certain set of entrance requirements leading up to each course; and you may have in those entrance requirements Greek, Latin, mathematics, some elementary science and some history. I suspect there are many public high schools which could not prepare boys for such a college. On the other hand, you may take the view that all knowledge is educative and liberalizing; you may hold that the modern languages and the historical humanities are as truly educative as the ancient languages and literatures, and you may put them in your entrance requirements on an equal footing. If that is done, you bring your college into correlation with the high school courses. That is what we have done at Cornell University, and I think that the colleges and universities of the country must adjust themselves better than the majority of them are now adjusted to the curricula of the high schools.

Yet I do not want to flatter the high school men who are here. I do not believe that the high school men have more wisdom than the college men. But the high school courses of the country have, as a rule, been worked out under two influences—first, experience; secondly, the sentiment of educators as expressed in state and national conventions. My hope for the future of the higher education of the country is that we shall all of us—college men, high school men, primary school men—get our heads together and work out an ideal curriculum for the elementary school, the grammar school, and the high school, irrespective altogether of the college, thinking simply of the highest needs of the 95 per cent of boys

and girls who go no further; and, such courses being worked out, the colleges, as a matter of course, will have to adapt their curricula, and so their entrance requirements, to them. Instead, therefore, of modifying the courses of the public high schools so as to adapt them to the college, my expectation is that college men and high school men will come together and effect a correlation mainly by modifying the courses of the colleges and universities, and adjusting them to the needs of the high schools.

There has been a good deal of talk upon this subject, and I suppose there will be more. I hope, Mr. President, before we part, we may bring our thoughts to a clear expression on at least one point. I should like to ask whether it would not be proper, at a later stage in this meeting, to introduce a resolution declaring it the sense of this meeting that the entrance requirements of colleges and scientific schools should not be made lower than they are at the present time? [Applause.]

Charles H. Thurber,

Dean of the Morgan Park Academy of the University of Chicago.

Ladies and Gentlemen: I have been wondering where the Eastern secondary school men were, and I wonder if there is a plot to bring a secondary man half way across the continent to speak for the secondary schools. Isn't there anybody here that dares to speak for the secondary schools in face of the way that they have been catching it for the last twenty-four hours in this assembly? It is our habit to sit still in such gatherings and absorb wisdom; but I tell you, you college gentlemen have no idea how we give it to you when we are by ourselves and you can't hear us. [Applause.]

It has occurred to me that perhaps you would be interested to know that we have adopted in the University of Chicago substantially the plan which I was delighted to hear Dr. Eliot outline yesterday afternoon; and in a few words I want to tell you about that. Not that it is perfect; we don't think that it is

perfect; we think it is pretty nearly so, but not quite; but it is interesting, I am sure, as an experiment, and it certainly does work, because by means of it we do get students into the University of Chicago, and we get students that pass through the regular order and eventually get out with a degree. We have adopted there the unit system of admission. What is the unit? The unit represents five hours of recitation per week, or five recitation periods of fifty-five or forty minutes, as the case may be, running through an entire school year. That is what we mean by a unit. There are units in every subject, so far as I know—so far as we know—that are sufficiently taught in the high schools. Thus, there are four units of Latin, representing a thorough four years' course in Latin; there are three units in Greek, there are three units in French, three units in German, two in mathematics, two in history, one in physics, one in chemistry, one in biology, and half a unit in astronomy —because no one teaches that, apparently, through a whole year—and there are various other subjects. A student cannot get in by simply raking together a miscellaneous assortment of units. He must have, if he takes any Latin at all—and he must have Latin for any course—at least two units in Latin; and if he takes Greek, he must have two units in Greek, at least; but any one can offer for admission thirteen of these units, which represent a good, full, four years' preparatory course; and he can select them himself, according to the training that he may have had. That is our unit system of admission.

There is another question which has not been raised in this assembly at all; I don't know why; I dare say the colleges are not interested in it; we are a good deal interested in it out West—that is, the question of methods of admission. It has rather been taken for granted here, I think, that the only method is by examination; and the colleges, I believe, quite generally hold that that is about the only method. I think the preparatory schools and secondary schools, as a rule, certainly in my part of the country, would quite as lief have our students come in that way as any other. In the case of our own school, there were students that we would not have recommended for admission to the University of Chicago, or to any other good university, who took the examination of some prominent Eastern colleges, Yale among them, and went in without condition. At the

University of Chicago we have adopted a plan—so far as I know unique—of combining the interests and the efforts of the secondary schools and the university. We have not copyrighted that plan; we shall be delighted to have the plan copied if it is good. We have only tried it for two years, but it seems to be working well. At the risk of wearying you with details, I am going to describe it, because it may be new to many of you. The teacher in the secondary school, after that secondary school has been carefully inspected twice by university officers and passed upon by the Board of Affiliations, prepares his own examination paper—let us say, for example, it is a term examination in Cæsar—on a form prepared by the University. He writes out the questions that he proposes to give to his class, with a pretty full account of the life history of that class, how old they are, how long they have been studying Latin, what they have read, what grammatical work, how much time to composition, and so on—a pretty full account of the class. These questions are forwarded to the University and placed in the hands of the departmental examiner, who goes over them and approves them, with or without change. If he does not consider them satisfactory, he suggests changes. The questions then go back to the teacher, and we actually are so foolish, so confiding, so artless, so naive, as to trust that secondary teacher to give that examination honestly. Then he sends the papers in to the University, and they are read and corrected and marked by examiners employed by the University for that purpose. The marks are recorded at the University; the papers and the marks are sent back to the school. That happens in every subject in the secondary school. And so, not once a year, or once in two years, or once in three years, but once in not longer than three months, the University comes into direct contact with every subject and every teacher preparing pupils. Twice a year the teachers come up to the University for a conference with the University officers.

When the student has finished his preparatory course and comes to the University, where is he? Is he outside of some institution of learning? Is the principal writing and begging to know whether his student will be admitted on certificate or not? Is he cramming up in a hurry everything he has gone over in the four years for an examination? Is he wondering whether he will get in? And are the backward ones thinking

perhaps they would better not try to get in? No, he is landed, not on the outside of the door, but just on the inside of the door of the University. All of his examination papers are there; they have the record of them quarter by quarter; and when the student goes up there his whole record is there; and if satisfactory, he is already, *ipso facto*, admitted. He can go anywhere else he pleases. Students do not have to go to the University of Chicago. If that were a part of the agreement, even so enterprising an institution as the University of Chicago would not get any school to enter into it. That is the plan; and it differs from other plans mainly, I think, in the closer relationship established between the universities and the school, and the closer supervision exercised on the part of the university toward the school.

I was going to speak of methods of admission, but shall pass on to speak of just one question raised here yesterday, about which I am not so clear as some of the speakers have been, viz., whther the same or different methods of preparation should be followed for students going to college and for students not going to college. If you say that the same course of study is to fit students for college and for the world, then it follows inevitably that the present course of study, any course of study that is recognized, is not the right course of study. I have been making just recently, and am still engaged in it, a somewhat interesting compilation of statistics, not complete yet, but already showing some quite suggestive facts. I prepared a circular to send out to five or six classes of business men and professional men—bankers, general business men, lawyers, editors, and so on—in which I asked in some detail for their opinion of the programs of the Committee of Ten, and also as to the value of the specific subjects now in the high school course as preparation for that special calling, asking also for any additional subjects that should be put into the course to make it a proper fitting for that calling; and then I submitted the course of the commercial high school for their criticism. Almost without exception—I have had a good many replies, and they have replied, these business men, with surprising fullness, and showed a surprising interest in and appreciation of the subject—I found that, either through our influence or because we are right, they agree, on the whole, with our ideas as to education. Universally they say (there is

one exception in all the replies I received) that the discipline and training of the mind is of more value than the knowledge obtained. One man, an aberrant type, a prominent lawyer in Chicago, says the best training for any calling in life is an apprenticeship in a pawnshop. Almost unanimously they say that political economy should be added to the high school course, and a large proportion of them say that psychology should be added. Of course we may say they are wrong, but they don't think so; and we are going to have very hard work to convince them. The notion that we can bring about any serious reorganization of the public school system to suit the colleges is a chimera. The high schools are in close touch with the people, and they are going to stay there. When hard times come the college professors don't have their salaries cut down; but in Detroit and Chicago and all over they have been cutting down the salaries of the school teachers. Only last spring there was a severe struggle in Chicago in regard to the high schools. You must keep the high schools close in touch with the people, and make them believe they are necessary, or they will not keep them up. So if we are to have the same training for both, we have got to remodel our courses a little bit—at least remodel our model courses, because, of course, the model courses are not adopted anywhere—and bring them a little nearer to what the people think they ought to have.

The colleges think that the schools are not very good—that there is a great loss of time in them. Whatever loss of time there is is the fault, gentlemen, of yourselves quite as much as of the schools; it is the fault of the men you send out to teach in those schools. You ought to send out better teachers. In order to do that, there ought to be more sympathy (and I say this, perhaps, too boldly); there ought to be more sympathy in colleges with teaching as an art and as a science; there ought to be more attention given to instruction in a much-abused, and in colleges and universities much-despised, subject—pedagogy. [Applause.] People are apt to speak with something of a sneer of a professor of pedagogy, but his subject does deserve more humane treatment in the colleges than it has. As a rule, college professors and teachers do not care enough about how they teach, and many of them, I think, don't want to teach. That has been the tendency in the past ten or fif-

teen years—to get scholars and not teachers; and the natural result has been not to send out a great many teachers thoroughly imbued with the spirit of teaching into the secondary schools.

What can be done toward uniformity? I do not suppose any of us are optimistic enough to believe that we can get absolute uniformity; I do not know that any of us would think that a good thing; I am sure I should not. What the secondary schools want is that kind of uniformity which will give them a fair show; they do not want to send in pupils unprepared; they want, however, to be able to prepare pupils in the same classes for a considerable number of institutions. If, in a given school, we are preparing pupils almost exclusively for entering a single given institution, we do not have very much trouble; but when it happens—even in the wilds of the West—that we are preparing pupils in the same class for the University of Chicago, for Yale, for Harvard, for Princeton, and perhaps for four or five other colleges, all making different requirements, what are we going to do about it? That is the question that confronts us. It is particularly the question that confronts the high school teacher—the problem that confronts, for example, Dr. Nightingale, Superintendent of High Schools in Chicago. He has eight thousand or more students in his charge; they want to go to all the colleges in the country; he is tied down by certain conditions imposed upon him by the necessities of the situation; and this is a constant problem with him—what he shall do. If he can prepare them in German in the same class for all colleges, usually it would not be so hard a problem; and so on with other subjects.

There are a few things I think we can do; I think the colleges can do away with those entrance requirements which really represent nothing but the whims and the idiosyncrasies of the individual institutions. [Applause.] I know a college in the East which not long ago was the only college in a State having fifteen colleges which required the French language for admission to the classical course. How much did it require? It required what one school directly under the influence of the college taught in ten weeks of the spring quarter. That was the requirement in French. There are lots of other cases of that kind. Somebody wants to give his

department a little higher standing, or get more recognition; gets ambitious; he must have a requirement in that subject put in as an entrance requirement, and usually it is done without sufficient discussion of the effect it is going to have upon the schools. It may have a disastrous effect upon a whole system of schools, of which the person making the change could not dream. If you are willing, you college men—if you are willing to say that you won't humor yourselves in that way, that you will exercise a considerable degree of self-restraint in the matter of these somewhat unnatural changes, that you will lay down your entrance requirements on broad and general lines, it will be a wonderful help. If we will sacrifice a little, as we always must, of individual comfort—sacrifice a little for the general good, I think we can accomplish a great deal in removing a lot of these little things that cause most of the friction. [Applause.]

Again, I wish we could get some uniform units of measurement. What do I mean by that? What do we mean by a college requirement in algebra, or in geometry, or a college requirement of the first year in elementary German or elementary French—what do we mean by it? Nobody knows; we have to look up your catalogues before we can find out—look up each individual catalogue. If the majority of a class have received a certain education in German, as specified for entrance to a college, or a set of colleges, and one student is going to a college where that particular course in German is not read, one would suppose that an equivalent would be accepted. Sometimes it is, and sometimes it isn't; the student goes through and is conditioned. I sent, a few years ago, one of the best students in the class to an Eastern college, and he had read a third more Latin than was required; but he had not read one book in Cæsar that that college required; he was conditioned in Cæsar, and didn't like it at all. We want some uniform standard, so that a year in German shall mean, when we have given him the elementary German, that he will know that he has got it, wherever he wants to go; I believe that is entirely practical. The Modern Language Association, in its meeting next month, is going to take up that question so far as it affects German and French. We need to agree upon what constitutes a proper

examination paper. A gentleman said here that there was some trouble with the examiners; that we should have a trained body of examiners, and that examinations were now put into the hands of the young men, who know least about the needs of the situation, and care less about it. Examination papers are made in a hurry oftentimes. Just before an examination for entrance they get together a half dozen papers that have been used before, and chop off a piece of this one and that one, and paste together and add something new here and there. That is one method; and there are others. [Applause.] We ought to decide upon the elements entering into a proper examination paper, and put so much public opinion back of it that nobody will dare make one deviating very much from that type. In modern language a paper should include sight translation, and it should include sight translation given under natural conditions. It is enough to make anybody's blood boil to have a passage given from some book, where there is no hint given as to context and where it is impossible to get at a proper translation without the context. A teacher, a native German, told me the other day he had frequently seen examinations he could not translate himself, because he did not know the context. In reading we know the context; in talking we know what we are talking about, usually. If the student has not read the particular book upon which the composition is based, he should be allowed to describe the character from some other book that he has read. Lots of pupils will not make an effort. "I don't know any thing about that character," they will say; they could make a pretty good essay about some other character. I would fix requirements for a longer period of time. We have to plan our single courses for four years. A college or university seldom gives notice of a change more than a year in advance. The change has got to be done in the last year of college preparatory work, when the student has enough to do already. One of the best things in the State of New York is, the regents fix the requirements in that State for five years.

Just one word more—I think I have taken nearly ten minutes. [Laughter.] This question was referred to yesterday as a question that interested the schools and the colleges vitally. If it was a question that interested only the organi-

zation of the schools, we might spend our time better than in coming here to discuss it. It is a question which concerns most vitally the boys and girls of the schools and the generous youth of the colleges. I was mentioning something of this kind in my school not long ago, talking to some one, and one of the boys overheard me. He was one of the keenest boys ever in that school. He said: "I have lost just two years out of my life on account of the un-uniform entrance examinations and of the bad course of study that I had in the first school that I attended." He took a whole lot of things that didn't count in getting into college, and then he had to spend two years in getting things that did count. In my school half of the students have lost one to two years of their lives on account of this lack of uniformity. It is a great social question. In the face of such slaughter of the innocents as this, are we going to say—we to whom the interests of higher education are entrusted, a body of picked men to whom the country look for solving these questions—are we going to say we can do nothing? [Applause.]

PRESIDENT FRANCIS L. PATTON,

Princeton University.

I regret exceedingly that I missed the discussion of yesterday afternoon, not only because I have lost the instruction that I should have certainly derived from listening to that discussion, but also because I feel myself in a measure out of place this morning in the discussion in which we are now engaged, and what I say is likely not to prove as appropriate as otherwise it would have been. I shall not speak—indeed I could not, under the circumstances, claim to speak—as an expert; and I shall not try to confine myself very rigidly to the text that has been made the basis of this discourse. Having little to say, I shall on that account not occupy your time very long, but shall speak frankly; and it will occur to some of my friends I have exposed that I am talking about things that I don't know anything about. I can see that very clearly

at the outset; but the fact that I don't know anything about them may not in any sense interfere with my entire candor upon the subject, and I plead guilty to the indictment at the outset; and therefore it will not be necessary to put me on trial.

It looks to me as though this series of questions were constructed upon the principle of a foregone conclusion to the effect that there is an unbroken chain of historical continuity from the primary school onward to the time when a man is called to the bar, or is ready to unravel the mysteries of chemistry, or is licensed to practice medicine; and that, entrance upon these professions being, in a certain sense, the end toward which all our attention is directed, everything intermediate must bear a part; and therefore, recognizing that, according to our present scheme, it looks as if a man were eighteen years old before he got to college, and twenty-two years old before he got his bachelor's degree, and—according to the increasing exigencies of professional education—twenty-six years old before he entered upon the practice of his profession, we ought to do something; and what are we going to do about it? One scheme is to cut off the fourth year of the college course, and give the "B. A." at the end of three years; another is to lower the entrance requirements, letting a man come in as freshman, say, at sixteen or seventeen; and it does not seem to have occurred to anybody, in the first place, that there is a failure in perception, and, in the second place, that we have not exhausted all the possibilities of the case; and here is where I enter upon that part of my subject where I know so little. It would seem to me as though there were a third experiment that might be tried. It might be a question whether, even conceding that our present entrance requirements are not too high, and conceding that eighteen is rather old for a boy to enter college—whether something might not be done on the part of the fitting schools to get their boys here by seventeen, with a little extra effort. I am not criticising the preparatory schools, though I would like to say a word of criticism with a great deal of frankness, simply by way of interrogation. I am not blaming schools, but I do blame the parents that send the boys to schools, because they are so conscientious in obeying the mandates of their own children to the degree that

prevents them from sending their children early enough, and that prevents them from seeing that, when they do go to school, they see that they do what they go for. If I am wrong, I yield to correction; it may be our climate, it may be our social conditions, it may be this or that; but I am thoroughly persuaded that we don't get at eighteen years of age out of our boys what we ought to get and what we could get. [Applause.] It seems to me that if those better conditions were realized, it would be quite possible to bring our boys up to college—if not at seventeen we could bring them at eighteen —with better entrance requirements than we now have. I wouldn't want any more Latin, any more Greek—certainly not more mathematics; but I do think we might get some of the simpler things which we are now required to teach in the university. It seems to me when a boy is a freshman—and certainly when he is a sophomore—he is past the time when we ought to expect it of him to recite lessons in general history. It looks to me as though it ought to be quite possible for a boy between fifteen and eighteen years of age to learn the outlines of general history—to learn of his antecedents' English history (that addition to the history of the United States which is necessary to the proper understanding of the United States history), as well as the history of the United States itself. It has been done in the case of other boys who are older now than they wish they were. This whole perception is, to me, wrong. I don't look upon the primary schools as having but one end, and that the fitting of the boy for the secondary education; and I don't look upon the secondary school as having but one end, and that the getting ready for the college. There is a teleological implication in that word "preparatory school" which I don't like. It is a great pity that a school should so organize its curriculum that it should distinnctly set before it the reading of just the number of books of Cæsar and just the number of books of Homer necessary to take the boy into college; nor do I look upon the four years' course in college or university leading to the bachelor's degree as having no other end than that of being an entrance to the profession of medicine, law or theology. That being the case, I am quite ready to face the question as to whether a man might not properly skip the four years' course in the college or university—not only the

course that begins with the freshman year and ends with the bachelor of arts, but the university course. Therefore, if a man gets in his secondary period of education that amount of Latin, Greek and mathematics which I think he ought to get, and which I think he could get, I should not blame him, if his financial circumstances, or if his ambitions, were such that he wished to take a short cut to theology or to law or to medicine—not at all; only, I should have it distinctly understood that there are certain things that ought to be aimed at in the secondary school that can be realized, and which will be put in jeopardy if you undertake to aim too high or to do too much. I shouldn't be anxious to put psychology in the preparatory schools, or even political economy; nor would I have the preparatory schools go too much into the mediæval, early or middle English—the modern English is very good for me—nor go into the metaphysics of the subjunctive mood; but I would have—if I could have a Latin grammar small enough for a man to swallow so that he could never cough it up—I would have a Latin grammar in which the accidence and the simple syntax should be so much a part of his being that he never could make a mistake as to the gender of a noun, and know all the exceptions to the gender of the nouns ending in "is" without having an elaborate system of mnemonics. I would have him practice reading Latin verse often enough, not for purposes of translation, but read it so much and so often that his ear would be attuned to the melody of Latin accent, and he would not be guilty of false quantities, as he now is, with all his knowledge, every time he opens his mouth to speak a Latin sentence. That can and ought to be done; and I don't care very much about the philology of the thing; I do care about the man being able to get that amount of Latin and Greek that shall be the basis of an English culture—that shall enable him to speak the English language with propriety, know something about its history and the meaning of its words, and know something about the rhythm and melody in the structure of an English sentence; and as to whether he has his psychology or political economy I care not; but I do care that when he comes into a theological seminary to study theology, or into a school of medicine to study medicine, he shall have that large amount of acquaint-

ance with men and things, that liberal knowledge of life, that power of moving comfortably in matters literary, as that he shall know how to write his superiors, inferiors and equals respectively a decent English letter. There are a good many men who cannot do it, and don't know the ordinary amenities of life, for all their knowledge of Latin and Greek; and I think a knowledge of these amenities in a literary way—a letter well addressed and well expressed, with a proper superscription on the envelope—is a matter of some importance. I say if a man wishes, having completed his secondary education, to go over to the school of medicine, why shouldn't he? There is a very large amount of intellectual culture in studies of the world—professional studies—something very stretching to the intellect, very taxing to the powers of thought, very much involving the leading faculties of memory and reflection and reason, in all these professional studies; and if discipline is what you are after, undoubtedly you get a great deal of it in these professional studies; and therefore I do not see why we, in this country, should insist more than they do in England on a university education. Medical men in England are not all university men by a great deal. Some of them are, some are not. There are enough to be a great many men in this country, in medicine and in law, who are not university men. Now, the question is whether, allowing it to be granted that a man may skip the faculty of arts in his university, and go into medicine and law without his bachelor of arts degree—whether, after all, it is not a very desirable thing that he should get his bachelor of arts degree. There cannot be any doubt about it that there is a place in the educational morale of this country, and of all civilized countries, for an education that falls short of the specialism of the advanced graduate department, and that builds upon the secondary, disciplinary education of the so-called preparatory school, and that shall bifurcate at a proper point and give a man his option—the study of the world, of the material order, on the one hand, and the study of the world, the moral order, on the other hand. Of course there is. I am not here to debate the question as to which of these choices a man should make; only I am very strongly of the opinion that in this world of moral order, in this great sphere of the humanities, in this knowledge of what man has done and

what man has written—of his literature, of his politics, in the great language of the history and philosophy of the institutional life of humanity upon this planet—there is a great deal that is very pertinent, very valuable, very helpful in the making of citizenship, in making high manhood; and it is a matter of some importance—however important to have made an orthodox clergyman—to have made a man first; to have made a skillful physician, but to have made a man of large human sympathies first; however important to have made a practical lawyer, to have made a man who knows something about the things and thoughts of the life of the race he belongs to, and of the problems that race is dealing with first. It is pre-eminently desirable there should be a large class of men who will not enter upon the threshold of the temple of professional study until they shall have first taken the bachelor of arts degree. This is a matter of self-defence and self-interest; and the question is whether there is going to be such a scramble for the halls of professional training that we men who work—more particularly in the faculty of philosophy—for our bread and butter (ladies included), are going to have anybody come to our shop. I have no fear. This country is big enough and rich enough always to furnish an increasing citizenship which will come from the secondary school for a bachelor's degree—whether men of leisure, or whether going into professional schools—in order that they may have that broad general culture that shall make them masters, easily, of the humanities and literature of life, before they go further. I am not afraid that that man will be caught too late, nor am I troubled lest the faculty of philosophy shall be deprived of its pupils. [Applause.]

PRESIDENT C. H. LEVERMORE,

Adelphi College.

LADIES AND GENTLEMEN: I may well be brief, for it seems to me that all the contentions that I might raise have already been ably set forth and discussed. I may, in the time allotted

to me, endeavor to enlarge upon what seemed to me some of the practical aspects of the questions in our circular. We may group the points raised in the circular about these three topics: First, the readjustment of entrance requirements; second, the reorganization of school curriculums; and third, the position of the bachelor's degree.

First, about the readjustment of entrance requirements. It seems to me that, as between the colleges and the secondary schools, we have first to remember that there are two classes of secondary schools—one, the preparatory schools, or feeding schools (which exist only for the purpose of training pupils for the colleges), and the other, the public school system, or the high schools of the public school system, which have a very much larger and wider purpose in view, since the greater number of the pupils of those schools will never enter the colleges. So far as the preparatory schools are concerned, it seems to me that the problem of entrance requirements is one which they cannot affect directly, excepting as they may make their wishes known; for they are tails to the kite of the colleges, and it is their business to sail along in the air after the larger bodies to which they are attached. They may make their wishes known, I said; and here is the place where they may do it. In the first place, it seems to me that we should ask from the colleges for the redistribution of emphasis in the entrance examinations. As it is at present, and as it has been from time immemorial, we understand that our pupil who goes to college, to the classical college, must be ready to meet the requirements of his given college in classics and in mathematics; everything else gets in if it can, wherever we can put it; the classics and the mathematics are insisted upon first, last and all the time. I believe that that is a mistaken emphasis in our entrance requirements. I would not argue or plead for any very serious change in the list of entrance requirements; but if we could understand that the more important subjects for admission to college may be the subjects of mathematics and history and English and the sciences, I think we should be able to give our pupils a better education and send to the colleges a better product, a better-equipped pupil. I was not fortunate enough to hear, yesterday morning, the discussion concerning the possibility of requiring a larger amount of science for admission to our

colleges, but it seems to me that in drawing up a preparatory school curriculum which is based so exclusively upon the traditional studies of Greek, Latin and mathematics, we are feeding our young pupils with husks, where we might give them solid food. It is necessary that they should have that training in literature, that development of the literary sense which comes from the study of the languages; but are we not overdoing, and have we not been overdoing it? Should we not place a larger requirement in information studies, in general culture studies, in the studies which the pupils themselves are more surely interested in? It is true that the main question of interest, the secret of the interest of the pupil, lies with the teacher; and the right teacher will teach history and science and literature when he is teaching the Greek and the Latin; but we cannot hope for the ideal situation in many cases. Therefore I should welcome a statement of entrance requirements which should include some science (which should always be science taught in the laboratory), and which should include a considerable requirement in history and the present requirement in mathematics. In languages, why should we not make a requirement in two languages beside the English, and not specify necessarily which the two should be? English, of all the languages, it seems to me, is the one which is of the most importance, and it is the one which receives the least attention. I would rather, as President Patton has said, see the young candidate for admission to college able to write a correct and well-spelled, well-punctuated, well-expressed theme or letter or English exercise, and to show excellence in the English of his translations in Latin or Greek, or excellence in his historical or scientific paper, than to see him manifest the best preparation in Latin or Greek grammar.

It seems to me that the question of uniform requirements is one which* involves on the one hand delicate discriminations of rank among colleges, and involves, on the other hand, the kindred conundrum about the proper place and meaning of the bachelor's degree. It is possible that this lat-

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* At this point the speaker was stricken by sudden illness and was obliged to withdraw. The paragraphs which follow are furnished from the remainder of the notes which were prepared for the occasion.

ter question must be answered first, and that the solution for that problem will also go far toward indicating what should be the requirement for admission to college. It will be doubtless unwise and impossible to establish uniformity of entrance requirements on the basis of the most advanced requirements now known, yet no institution will wish to lower its standard appreciably when it is once duly erected. The bachelor's degree, however, might be made to mean everywhere the same amount of work, calculated upon units of time or within limits of subject, or in both ways. It would make less difference then what the entrance requirements were. The college might place them within two years of the degree or leave them four years away from it, without regard to aught but its own economies.

Every college prefers, I imagine, to prescribe qualifications for its students in accordance with its own traditions, its knowledge of the probable average age of its students, its estimate of its principal competitors, and in accordance also with the theories that may dominate its faculty. It may be possible to find a common ground among these conflicting usages, but it is not likely to appear. It takes now a year longer to prepare thoroughly for Harvard than for some other institutions that might be named. Each of these colleges finds it to its advantage to maintain existing conditions, and each one gives the baccalaureate degree at the end of a four years' course. There lies the way of escape, to which I will return in a moment.

So far I have had in mind the school that is in purpose, as probably in name, "preparatory." At least a reference should be made to high schools in general. Their case is somewhat different. The majority of their students and graduates do not plan to enter college. The high schools form a much larger body, numerically considered, than the colleges. The influences that support high schools are often indifferent toward colleges and college life. Naturally the colleges wish to attract a larger inflow from the high schools than at present. In order to get it, should they not in some way come into closer touch with the high school curriculum that is at present non-preparatory? The mountain is not likely to go to Mohammed. In other words, I believe that the colleges might contrive to accept the so-called "English"

or "Liberal" high school courses as avenues to the college gate. Would not the rearrangement of emphasis in entrance requirements which I have recommended accomplish the desired result, and strengthen mightily the hold of the college upon the high school? Harvard and Columbia have already sanctioned the substitution of science for Greek—a step in the right direction. Now, let the choice of options for entrance be widened a little, so that the high school pupil who has placed the stress of his study more upon mathematics, English, history and sciences than upon languages, may find himself as welcome in the colleges as his comrade of the classical course.

In the second place, do school curriculums need reorganization? If so, how? The place where time and strength are more often wasted is in the lower grades of school work. Arithmetic is taught too long and in too difficult a manner. No room is made for languages and for science, as there should be. Geography, history and language study are not sufficiently correlated. There is not enough eye and hand work, which should accompany the discipline of the memory, of the perceptive and reasoning faculties. Bit by bit and piece by piece that ideal of elementary education for which President Eliot has been most conspicuously fighting must be absorbed into our school system. The principal obstacle to the triumph of this ideal is, I believe, that, like most ideals, it is very costly.

The progress of the youth in school should mean his progress in culture, and that progress depends but indirectly upon the increase of his facility in computation. The ability to write and speak and read English, and, within reasonable limits, other languages also, the wide reading of well-selected books, the acquisition of information about the earth and its forms of life—these should be the first attainments of the young scholar. Under such a system his greatest gain would be the increase of power resulting from the cultivation of interest—a gain which would tell constantly upon the studies of later years. There should be also a large gain in time. Condensation of arithmetical study would bring the pupil sooner to algebra and geometry. An early acquaintance with modern languages, and the chance to begin Latin at the age of twelve, ought to ensure the gain of even more than a year over the present system. It is barely possible that the

colleges would lose a little by the immaturity of some students thus prepared for entrance at an early age, but the colleges would surely gain largely from the improvement in preparation, from the greater docility of the pupils, and from the certain increase in the number of graduate students who would continue toward a second degree. Under such conditions it might be that several of our best-equipped universities might become universities in fact as well as in name, and might devote themselves almost exclusively to university, as distinguished from college work, with a body of mature students—a result by no means to be deplored.

In the third place let us consider briefly the position and meaning of the bachelor's degree, to which I have already adverted. Historically this degree implied the completion of an elementary training. It marked the end of disciplinary and formative studies. From that point the student might enter upon the more advanced and chosen studies which would lead to the master's or doctor's degree. The custom of the English universities is still similar to the ancient usage. But we have carried the bachelor's degree along with an increase in requirements and an expansion in curriculums, until now we bestow it upon students who have been for two years old enough and strong enough to engage in strictly special and technical work. The result is that students do not complete their culture course, but pass by the colleges and go straight to the technical or professional school. That the proper ground of university or professional work has been trenched upon is shown by the sudden outburst of options in the junior year of nearly every college course.

It seems to me that existing facts, as well as existing needs, would be recognized if the bachelor's degree were everywhere regarded as evidence that the disciplinary training, or strictly undergraduate work, has been completed. In some colleges this would yet mean a four years' course, in others three; probably no institution could as yet venture to bestow the degree at the end of a shorter time. The principal consideration at the outset would not be the number of *years* spent in the college. It would be the fixed amount of scholastic accomplishment that the bachelor's degrees must represent. The various conferences of colleges and schools, or perhaps the National Educational Conference, could fur-

nish the machinery necessary for defining the minimum content of the first degree. A commission could recommend the number and range of subjects that should be essential, the number of courses or hours of class-room and laboratory exercise, and, perhaps, the minimum age at which the degree could be obtained. Substantial unanimity upon these points ought not to be beyond hope.

The result would probably be a three years' course for the degree in many colleges. Such action is probably for the present the one practicable check to the increasing tendency to enter professional and technical schools without any collegiate culture training whatever. Harvard and Columbia have already taken an initial step by allowing the student to substitute the first year of work in a professional school for the senior studies of the undergraduate curriculum. The colleges should move together, and not singly. Uniformity, and not an increasing chaos, is to be desired. In the definition of degrees the colleges should frame a common policy, and abide by it.

President Isaac Sharpless,

Haverford College.

I suppose it is the case that the particular views of the person on this subject are very largely modified by the institution, or class of institutions, in connection with which he works; therefore it seems proper that I should state that my standpoint is from the view of the kind of schools which are courteously designated by our large neighbors as "small colleges." There is also another question which is involved in this point, and that is that it does not seem to me absolutely necessary that all the colleges of this country should have exactly the same standard. I know that in a given locality which is supplied by a set of preparatory schools, it is most convenient, and almost necessary, that the colleges which draw from those schools should have a uniform standard; and in those great universities which have a national constituency, it is conve-

nient and almost necessary that they should have a uniform standard; but I do not know why it is not possible that there should grow up some kind of relations of other than of exact uniformity between the large universities and the small colleges.

With regard to the standard of admission to the small colleges I am a conservative. I am satisfied with it as it is. I would not change the aggregate amount of requirements either one way or the other. I would not raise it, because that, it seems to me, would result in a very large diminution of students who go to college; and I would not lower it, because I think that the objects which are sought to be gained in the saving of time can be gained in some other way. I agree with others who have spoken from this platform that it is very possible to admit students to the best colleges of the country at a much younger age than that which now obtains. I do not base my conclusion in that direction on what has been done on the continent of Europe, but I think there have been enough evidences in this country that it is very possible to bring boys and girls up to the standard of admission of our best colleges at the age of sixteen or seventeen. I have no doubt that we can gain a great deal of time in our educational system by a better arrangement of studies in our primary and secondary schools, by the omission of certain parts of a course which are not, perhaps, necessary (I do not mean not necessary for college entrance, but not necessary for the best educational results), and by putting a greater amount of time and energy into work in such a way as will not injure the health. I do not believe that our boys and girls spend as many hours per day, or as many days per year, as might be done to advantage, either in school or college. It seems to me that it is quite possible, by solving the various educational problems that come before us from year to year, in course of time to arrive at such a state of progress in our primary and secondary educational work that this problem can be settled without any change in the course of study, without any change in the conditions of admission to college.

But is it desirable that boys should go to college at the age of sixteen? I should say yes. I think it is a good thing both for the colleges and the boys. It is true that boys of sixteen are not competent to meet the great liberties and the special

arrangements existing in many colleges and universities; but if that is the case, there should be such a modification in the arrangements of the colleges and universities as to make those institutions wholesome institutions for boys of that age. [Applause.] And I do not think that that involves, necessarily, any great restrictions upon the liberties and lives of the students. It involves, to a certain extent, a different sort of teaching in the colleges and universities. It is an evil which sometimes exists in colleges that the boys receive an inferior grade of instruction in their first year. I believe that that is a just charge to make against some colleges. I have known enough cases to justify the statement that boys who go from good elementary secondary schools to college find that there is a great let-down in the character of the instruction which they receive. The fault usually lies, it seems to me, in the fact that our colleges and universities are too apt to place a freshman class in the hands of mere tyros in the art of education. [Applause.] The great men who are really inspiring men, and who should meet college students, and who will have their great influence over college students, are usually to be found teaching the upper classes. It would be a desirable thing if we could divide the college courses vertically rather than horizontally—that the professor whom all students would desire to meet should teach all the way up and down the line from the senior class to the freshman class, rather than that they should confine their energies to the elective courses of the senior and junior years, and to the special students desirous of meeting them in advanced work. This would solve the question as to the age at which students should enter college. While it is possible that boys may be carried, by the liberties of college, more particularly in their freshman year, into habits they afterward greatly regret, the remedy is not in the increase of restrictions upon early college life, but in such an *esprit de corps* in the institution that they will have the influence brought to bear upon them which will prevent the temptation to these things. [Applause.] The greatest educational factor in the world is, it seems to me, the influence of a strong man in a responsible position; and if that influence can be brought to bear upon our sixteen-year-old freshman and seventeen-year-old freshman, and he can be stimulated, as it is quite possible that he should be, by the influence of a man, not merely a

great scholar, but a great man, who enters into his feelings and sympathies, and who is calculated by his tact and willingness and self-denial to exert the influence over him of which he is capable, I do not believe we would hear of so many cases of students having to be cut off at the end of their first year. If that can be done, if we can get the freshman at any earlier age than we now do, and if we can then take care of him afterward, the problem which is suggested in these questions is to a very large extent solved.

I would have us strengthen the connection existing between the colleges and the high schools whenever we can. College standards should be to a large extent maintained. I would not sacrifice all which makes college valuable in order to meet the supposed demands of a constituency which does not know exactly what it wants. I have no doubt that the time will come when there will be so much respect paid to teachers and professors, so much of a belief that they are experts and know what they are about, that the great public will be willing to accept their verdict and take their courses without too much demur, just exactly as they take their physicians' prescriptions at the present time. That time is not yet, and therefore it would be wise for the colleges to make every reasonable yielding to the demands of the secondary schools, and to the demands of the public in general. Of course we do not think it is now necessary to adhere to the old-fashioned Greek, Latin and mathematics course, but we might go even further than we do in meeting the demands of the secondary school, and in recognizing the fact that culture and discipline and the ability to do new work may be gained by a great many different courses of study; that it is not necessary for each college, in its wisdom, to outline the particular set of studies which every student is expected to work up to, but that it may be presumed that the demands of a constituency in any given neighborhood are to a certain extent met by their secondary schools which already exist. Therefore, in outlining our courses, we should place ourselves in very close contact with the secondary schools in our neighborhood, which are our feeders, whether we exactly approve of the conditions which there exist or not. Then, again, I think we—the small colleges—might have more intimate relations with the universities at the upper end of the line. If the large universities are

going to advance their courses, if they are going to cut them down to three years and place themselves one or two years ahead of us, I should be glad to be placed in the same relation to them that we expect the secondary schools to be placed to us; I should be glad to adapt our courses, to a reasonable extent, to their demands, and that we should prepare boys for their senior class, if we are not able to do it for their graduate departments. A general yielding of wishes all along the line, a mutual coöperation in getting together to sustain a connected course of study from one end to the other, will enable us to solve the problems which we have upon the program to-day without the necessity of any lowering of our standard. [Applause.]

PRESIDENT ETHELBERT D. WARFIELD,

Lafayette College.

MR. PRESIDENT, LADIES AND GENTLEMEN: I am somewhat unlike my friend, Dr. Patton, in that, having been here throughout this discussion, I feel as if I were suffering from mental indigestion from all that I have heard upon this subject; and I am afraid a good many of you are in the same situation.

I was astonished yesterday afternoon to hear from the president of Bryn Mawr that the young ladies who came to that college were in "a condition of crass immaturity." I had always felt that Bob Burdette was right—that "the dear girls just spread their wings and fly up the staircase which leads to life's vaulted halls; but the boys, they just shoulder their feet and fall up." Now, I am not entitled to speak for the girls, but I think it is a misfortune if the boy of sixteen or seventeen is not immature. Like a good horse when he is a colt, he is all head and feet. It isn't possible for him to adjust the relationship between his extremities. If he is asked in the class to think on his feet, he has too large a subject for reflection. The boy is feeling out the problems of existence. He cannot be expected to have very original thoughts. The schoolmaster must bring the boy into some sort of shape for college work. But we must realize that we are dealing with boys, and not with ideal exceptions. My department embraces political

economy, and we all know what terrible fellows these men are that make our statistics for us. The old saying that "figures won't lie, but liars will figure," which in more courtly language means that much depends on the sufficiency of your data and the analysis of the basis from which you work, is more or less true. As to the statistics so often quoted in this discussion, I always want to know, not what is the average age, but what is the age of the *average boy*. My experience is that the average men of the class are much younger than the average age of the class. There are nearly always a few exceptionally old men who greatly raise the general average. I have taught, as president, men much older than myself. All such abnormal cases, for the purposes of this discussion, should be excluded. If the average of a class at entrance is eighteen and a half, the majority of the boys will be not more than seventeen and a half. That seems to me quite young enough. There have been, besides, in the classes I have been acquainted with, a good many students who have been under seventeen—sixteen to sixteen and a half—showing that it is not only possible, but easy, to take a bright boy who has gone steadily to the same school, and bring him up to college at that age. I think that sixteen ought to be the minimum. So, in saying that boys do go to college at sixteen, I should say our entrance requirement is low enough. Boys at fifteen are too immature. The majority of boys would better come to college at seventeen.

The great question for us to consider is, What is the object of the college, and what is to be the future of college men? If the social life of the home is such as we know it to be, and the changes in American families are such as we know them to be, and the incidental interruptions in school life due to sickness and other causes, making nearly every boy lose one year out of his school years, and if the parents do not keep their children at work steadily, definitely, persistently hammering away at some object, we cannot expect schools and colleges to transform society in a single generation. The great barrier to successful school work is the social situation.

To pass rapidly to another point, I do not sympathize with the unit scheme of the West, just explained by Dr. Thurber. I do not believe that work should be done in detached blocks: two years of Latin is worse than no Latin. It represents labor

which has not generated enough creative force to produce any result. My idea of preparing for college is that there should be centres of instruction, around which effort should gather. And that the boys ought not to be prepared especially for any individual college. We aim to teach Latin and Greek and mathematics, not this author or that—least of all, this text-book or that.

We heard a great deal about the tyranny of Greek some years ago. Nobody says anything about the tyranny of mathematics. Yet mathematics has been the great barrier to college in a great many instances. At Lafayette we have seven courses. Every one of these has a high requirement in mathematics. One of them omits Greek, another Latin and Greek, and so on. So that admission into the college depends upon seven groups, all of which require mathematics. Many men lack the mathematical temperament, and find the preparatory work difficult. Yet I feel, with most teachers, the immense value of mathematical discipline. And I would retain it, if for no other reason, because it is difficult. We want boys to come to college only after they have met and mastered difficult subjects, after they have learned to work and think, after they have shaken off the flabby, mollusc-mind of babyhood and begin to have some mental muscle. Nor for the boy I have to advise would I do away with the old Latin and Greek disciplines. My conception of Latin and Greek teaching is that it should begin early, and that around Latin and Greek should be grouped training in the humanities. In connection with Latin should go Roman history and some intimation of Roman philosophy, and some introduction to the great questions of Roman society, not to teach sociology—we are too full of "ologies"—but to teach the lad to feel and to know what Roman life was, and why it was so, and to teach it in such a way as to make an impact upon his life. Our distinguished representative from the New England Association yesterday said we could not pass an examination in Ian Maclaren's book, "The Days of Auld Lang Syne." I do not care to be able to pass an examination in the physical geography of Drumtochty. But when I have wept over the life of Dr. MacLure and the death of Geordie Howe, I feel something has gone into my life, even though I do not know who has said the affecting words at the funeral. Under the training of some astute

schoolmaster preparing for a difficult college examination in a novel, a boy may be fitted in such a way that an examiner cannot possibly say from a written paper whether he has read the book or not, but only that he knows the abstract. We want to avoid all such "cram." We want to feel the impact of ancient civilization, and to realize through it what has come out of that ancient civilization into modern life. Hence I think the boy should have a course laid out in a few large subjects, and follow that course for several years. When he comes to college he should be required to bring intelligent evidence of having mastered the course.

In order to bring school and college close together, he who prepares the boy should also have the right to say to the college whether the boy is prepared to do college work or not. I believe in the certificate system, upon certain conditions. A certain retributive justice ought to be shown between school and college. The college ought to take men prepared for college by recognized schools upon their recommendation, and the college ought to refuse to take men who are not so recommended. Unless there is a recognition of mutual right and privilege, the certificate system will fail.

I am very far from believing that every boy should be encouraged to go to college. Yet I think that there is a great class of boys who should be persistently directed toward the college. It is of the greatest importance, therefore, that college men should be more and more engaged in preparatory teaching. There are two great divisions in secondary education in this state and in this association. There is the preparatory school—that is, the proprietary school, belonging to trustees or individuals, which are likely to have more or less college men among their masters; then there are the state normal and high schools, which have very few college men; and the difference can be seen almost immediately between the school when it has no college man and the same school when it gets a college man, in the number of boys sent to college. We ought to do all we can to draw the school and the college together, and the link to unite them is the college man teaching in the schools. One of the difficulties is to induce men seriously to take up this career. It is too uncertain, especially in the state schools — too much hedged about by politics, which renders it distasteful to men with ideas generated at college.

Now, as to the relation of college and university, I think if one graduates at twenty-one, as we have seen can be done without difficulty, and then goes to the university and graduates not later than twenty-four, that, for the average man, this is early enough. It is of importance that we should realize, with reference to the college—and I shall not undertake to speak for the technical side of Lafayette College and its sisters—that it stands for higher education. By higher education I mean the education of man for his highest usefulness in society—that is, the education of the soul, the development of the elements in man which are not merely directed toward making a living. It is, of course, possible that we should omit all this nobler side of man's training; but to do so is to omit all that makes character, that makes man an aspiring, living force in the world. We cannot spare out of society men who have been under the training of such men as we have always had in our colleges, possessed with the thought of leading their pupils to the very highest associations of thought, both with reference to the things that are and to the things that have been and shall be hereafter. This training in higher spiritual thought it is which lifts man up, which enables a man, when he comes out of a college, to go into the law school with a sense of responsibility of the highest kind, not merely to the study of the law, but also to society, and leads him to feel that his relationship to these things is under a higher power; which enables another who goes into the medical school to realize that he is to deal not merely with living beings, but with creatures with immortal souls; and which enables every professional man to realize that in all work conscience should be dominant, and that he has had time in college to work out for himself some definite conception of his relation to self, society and his God. We cannot produce such results if we hurry men indiscriminately through courses that are merely disciplinary or informing. A man may be full of knowledge and have no wisdom; a man may be full of ability to do things, but unless he has an inspiration to do right things, he has not developed his better nature. Do not let us hurry, therefore, the men who are to be entrusted eventually with the health and the lives of their fellows, with the laws and the morals of society, with the spiritual aspirations of men, with any of those things which go to make this American people what they are.

Time is necessary; without time and without maturity there can be no high preparation.

This may seem an impractical way to look at things. But men must have time to develop if they are to be called into the high service of the state; and even the business man can afford to spend three or four years in college. Yes, the man, too, who has lost time through any reason, can afford to spend time in college better than he can afford to spend it anywhere else—provided he works when he is in college. The boy who goes to college merely because his father wants him to, or because his father went, or because it is the fashionable thing to do, is, of course, no more to be considered than any other man who has inherited opportunities and does not make any good use of them.

In nine cases out of ten, the man who fails to get a living practice in any profession immediately on leaving the university is the man who has not had the college training; and the man who goes directly forward is the man who has had the college training. I am very far from demanding that every university shall require a college preparatory course, and I am still farther from demanding that the state shall require a college preparatory course for the professions, because experience shows that there is a certain talent in some men which takes the place of this training. But I do say that it is very desirable that the universities should recognize the fact that the men who come from the college are incomparably better prepared than those who do not, and that they should do as some medical schools have done—give one year allowance to college men. What would be still better would be to classify men according to their already existing acquirements. It would make the college man better satisfied in the university, and it would make the others feel the need of better preliminary training. I am not in favor of the student leaving at the end of the sophomore year to go to the university, because I want him to have a period of development, of spiritual and moral and mental repose ere dealing with the great problems of human life. In the second place, though I am not in favor of keeping men out of the universities if they have not had this training, I venture to predict that the universities which hold out inducements to college men will be more and more successful every year.

The one thought that illuminates this subject to me is that what we want in every department is not more, nor less, *but better teaching;* what we want is not less, nor more, but better training. It is the contact of many minds upon the methods of training that will give us the final result. I believe that we can secure through many lines the same results. But I do not believe that, by changing from one system to another, we can produce any result. Therefore I trust that we shall try, for the present, to stand where we are in external requirements, and by introducing more college men into the school faculties and the university class-rooms, we shall bring about a clearer comprehension of the relationship of these three departments of our educational system. Then, ten years from now, perhaps, we shall be prepared to say whether we have solved the problem which we think we have solved in the present entrance requirements.

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*W. T. HARRIS,
United States Commissioner of Education, Washington, D. C.

Ladies and Gentlemen:

I will name my thesis in the beginning, quoting its title from the printed programme: "Should the present standard of college entrance requirements be lowered through concerted action, and partial if not complete uniformity of requirement?"

I answer that question in the affirmative, believing that it is desirable that the colleges of this country should lower their standard of admission to some extent; but I would not recommend that it be placed where it was when Harvard first began the new movement which has resulted in raising the standard by nearly two years of work. It seems to me that the standard should be lowered so as to require one year less of work for admission. I count myself also on the side of those who believe that we should not separate the pupils preparing for the college from those preparing for the vocations of life. It delighted me to hear President Eliot lay stress on this point, and state in so strong a manner the grounds for not separating the students preparatory for college from the others intending to close their school education in the secondary school. It is a fundamental principle of mine that all the pupils should have the best course of study while they are in school, and this best course should be the one required for admission to colleges.

* Printed out of regular order by mistake.

I do not think that this was the case when I fitted for college. There was a list of abstract studies, mathematics, Latin and Greek and little else to speak of. This was wrong. There are certain branches relating to human nature and to the world of physical nature which should be taught to all students, whether in the elementary school or in the secondary school, and these studies should be taught because they contain matters of information that all persons should have in mind as early as possible, and retain them in mind through life. I should venture to call them " information studies " had not President Eliot criticised so severely the name and the thing. The " information " study, as I understand it, gives results without giving the methods of arriving at the same; it does not teach the grounds on which the results rest; or at least it teaches these imperfectly. It follows that nearly all of the studies of the elementary schools must be largely of the nature of information studies. They furnish the results of human experience and thought without giving at the same time the process by which these have been reached. Algebra to a certain extent explains arithmetic, and the higher analysis assists in throwing light on the nature of what is left obscure or taken for granted in the processes of lower algebra. The study of physics, with its doctrine of the movement of masses and molecules, may be commenced in the primary school as an information study. The explanations given are perhaps more qualitative than quantitative. But it is very useful to the child to understand something of the statics and dynamics of water, air and the machinery which man brings to his aid in conquering nature, even if the child is not able to understand the deduction of the mathematical formulae which govern its construction and action. Something is done in the secondary school towards proving the mathematical rules which govern the realm of physics; but the ultimate investigations cannot be taught to pupils who have not entered the second part of higher education. Only specialists are able to follow the mathematics of the molecules and solve problems of matter and motion in the most general terms. The post-graduate student under the ablest of professors makes studies which enable him to solve questions relating to the pressure of gases, and even the structure of matter itself by the vibration of molecules. It requires some mathematics even to understand the common house pump. The facts of atmospheric pressure and the thirty-three or thirty-four feet of suction permitted at the surface of the sea, the questions of friction and leverage, all these matters are mathematical; and they are needed for the practical understanding of the working of pumps. But the results may be

taught in the form of rules, and rules belong to information studies rather than to science.

The vice-president of the institution where we meet to-day has urged that we shall not in our education anticipate the choice of vocation in life, and not determine at the very beginning of our elementary education what the pupils shall do thereafter. Fix the course of study so that it goes towards all culture, towards getting possession of the wisdom of the race (as I like to call it), and then, when enlightenment has come to the pupil, in his secondary course of study he may come to aspire to a higher education and may find means for it. But if his course of study has been pre-determined for him it may be that he cannot change it, although his views are more enlightened. The elementary course of studies as it is is all right in this respect. Every pupil needs the branches which are taught in the first eight years of school life. The common school takes up the five branches which open the windows of the soul that look out into the five essential provinces of human learning—arithmetic, geography, literature, grammar and history. It gives that initial survey of the world which, though it is a very shallow one, is a prime necessity for all people. Elementary education is necessarily shallow, because it gives little chips of learning, little isolated facts—disconnected events. The school endeavors to take the next step as soon as possible, and to connect these facts and events one with another and get a view of their trend. From the fragmentary facts to the dynamics, that is to say, the causal relations that connect facts and events together in the world, is the educational order. The secondary school improves on the elementary school in this matter; it takes up the five directions of human learning with which the elementary school starts and goes on with them. For arithmetic it has algebra, geometry and perhaps trigonometry. It takes up the elements of chemistry and natural philosophy or physics. It is the higher education that takes up the branches of human learning comparatively, studying each branch in the light of all the others. The professor in the college is conscious of what is "good form" in education, and does not teach his branch as though it were a hobby. If the entrance upon college is postponed too long, and the time which was formerly devoted to freshman and sophomore work in the college given to the secondary school, some injury comes to the pupil. In these two years he should have the influence of the college.

Each kind of school has a certain average spiritual temperature, as we may call it. The elementary school, with its eight years' course, determines its average temperature by the pu-

pils of the sixth grade, let us say. The educational influence of association of a pupil with his fellows is a very important matter. The pupils pass from the highest class in the elementary school to the secondary school and receive the educative influence of a new atmosphere. Instead of meeting every day masses of pupils studying the elements of reading, writing, arithmetic and geography, they come into contact with students who are dealing with algebra, geometry, physical geography, Latin and German, chemistry, general history and other branches belonging to a different order from the surface studies which they have hitherto pursued. These secondary studies deal with dynamics, or the causal relations which determine the form of what they have been studying in the elementary school. This is a most excellent influence for four years more of work, including the fourteenth, fifteenth, sixteenth and seventeenth years. Four years of work on these dynamical studies taken at this important epoch of life develops the student's mind to a point where it is all important that he shall change the spirit and method of his work, and begin to study in a comparative manner, learning to see each of the five branches of human learning in the light of the whole. He should enter the college and train his judgment. The consensus of the learned world has its opinion as to what is " good form " in science, mathematics, literature, philology and history. This more important part of his education cannot be taught in the secondary school to good advantage. It would waste the time of the secondary school teacher, and would tend to give the secondary school an atmosphere not adapted to pupils from fourteen to sixteen years of age. The student of eighteen needs the college atmosphere. He must not become an intellectual crank; he must not permit himself to be turned aside by a mere hobby. There is no corrective to be compared in its value with that which the college gives in eradicating what is called sophomorism, or learned folly—a disease which attacks nearly all self-made men. Such self-made men are often men who do not possess ideas, but ideas possess them.

In the olden time a generation ago, when the college received the student a year or two earlier in its course of study than it does now, its work had substantially the same character that it now has. It gave the pupil his view of the world. It is true that the pupils of the elementary and secondary school have some view of the world presented to them by their parents, and especially by their church, but those views are given to them without mediation. The pupil does not think out the results nor see their grounds; nor does he apply that

view of the world as a measuring rod to the branches of knowledge; he does not grasp the thought which underlies the theology, for that is the work of philosophy. In the college the pupil has the thought of his civilization presented to him as a practical guiding principle. He meets it in every recitation room and in the general conduct of the institution. He finds himself in association with large numbers of students, all occupied upon this work of learning the regulative principles of human conduct and of the world of knowledge. The lawyer, after working years and years over law, gets to have what is called a "legal mind," so that he sees at a glance almost intuitively what the law would be in a new case. So in the four years of college undergraduate life, the student gets a habit of mind which enables him to decide immediately any phase of the problems of life. He has a hunger which leads him to inquire constantly: How does this question before me look in the light of the whole of human learning? What is the "good form" which the consensus of the scholars of the world has fixed? He learns at once to suspect all mere isms and one-sided tendencies like socialism and anarchy and anything that has the form of a universal panacea. Wisdom of the race begins to form a conscious element of his life.

This college atmosphere is of immense importance, and it ought to be begun a year earlier in our educational system. There must be an authoritative attitude in the secondary school and in the elementary school. The student has not developed sufficiently his knowledge to furnish a foundation for a rational view of the world. The college has this great function to perform, that it carries the pupil over from blind authority towards rational insight. But there is a second part to higher education, namely, the post-graduate instruction, which should follow it. This should have a distinctive atmosphere of its own, just as much as the elementary or secondary or academic course of the college. It is the place for complete specialization. The student shall take up the line of original investigation. Laboratory or seminary work comes in the place of lectures and recitations. Higher education in America has arrived at this point after much groping. Thirty years ago colleges contended that the standard for admission must be raised, and it was raised. If the specialization of the post-graduate work could have been organized at that time, in my opinion, this advance in the standard of admission to the college would not have occurred. It was not the true solution of the difficulty, although it has led to the true solution. Three or four years of work dominated by the college principle of giving a view of the world to the student is suf-

ficient for that purpose. The student has attained to some balance of mind and some maturity of judgment. He should now take up his special lines of study, dividing and sub-dividing until he finds a province which he can master. The higher education, as a whole, will, according to this plan, get six years instead of four, as formerly; but the directors of higher education are painfully aware that with an increase in the work of the secondary school, and then three years' work more in the post-graduate, that we demand of the student five years more work than was required thirty years ago. The deduction of a year will be a material gain. The professors who taught the seniors a generation ago used to say, " If we only could retain these pupils a year longer how much we could do for them." But they were mistaken in supposing that the old college methods could benefit the students if continued a year longer. The students had completed that part of their course of study well enough, and what they needed next was specialization in the university.

I believe heartily, as I have shown, in the old college course of three or four years of study in what were called " disciplinary studies." They gave the young man poise and an ability to receive a new idea without being entirely overthrown by it. They buttressed his mind by a variety of studies—a variety which was brought into unity and harmony by the principles of our civilization. But it is equally important that the post-graduate course of teaching methods of original investigation should be made accessible to all students of higher education.

The laboratories and seminaries of this post-graduate course may and do take up the practical problems of the life of the people. Such institutions are capable of immense benefit in sociology and politics, to say nothing of the problems of practical life, rural and urban. The entire civil service of the United States should find employment for experts armed with methods of original investigation and with the readiness and daring to undertake the solution of problems which offer themselves perpetually in our civil life. The town council, the board of public works, the various directive powers which manage the affairs of the State and municipality are in constant need of light, and the student of the post-graduate department of the university is the element needed to furnish by his special studies the aggregate result of the experience of the world in solving these practical and theoretical problems. In a country studying ever new political questions and questions in sociology, the student who obtains his doctor's degree from the post-graduate course can apply his knowledge, and apply it ra-

tionally, without losing his head. I believe in the elementary school with its course of eight years; I believe in a secondary school with a course of four years; I have the strongest conviction that the old college course of four years devoted to the teaching of the five branches of human learning in the light of our civilization is indispensable, and that there is no substitute for it.

The second part to higher education, such as is coming to exist in this country, which takes the student with a B.A. degree and makes him a specialist, is so important that a full provision should be made for this course in every one of the larger colleges and universities. The endowments of wealthy men and the appropriations of State governments should go in this direction until there are fellowships enough to support in a comfortable manner all post-graduate students who have ambition to complete their higher education.

Talcott Williams,

of the Philadelphia *Press*.

Mr. President, Ladies and Gentlemen: In some five hours of discussion, no objection has been made to existing college requirements except the age at which they are completed. Whose fault is this age? I do not think any one, after hearing the testimony of Dr. Thomas, of Bryn Mawr; Dr. Gilman, of Johns Hopkins; Dr. Eliot, of Harvard, or Dr. Brooks, Superintendent of Public Education in this city, can have any reasonable doubt that the age at which our students are graduated from college, from two to three years later than graduation is reached at institutions covering a similar range of knowledge in France or Germany, is due solely to the circumstance that a fit for college begins from two to three years later in this country than it should, owing to the condition of our elementary education and to the failure to take advantage of the years between six and twelve or fourteen. Nor can there be any doubt left, after hearing the detailed testimony of Dr. Thomas, and the perspicuous plan proposed by Dr. Brooks, that it would be possible, both in private and public schools, so to arrange work that our boys and girls would begin their fit for college at twelve or thirteen, instead of four-

teen or fifteen, as they do now. In many cases this is already done by those fortunately situated.

When I recall the parentage and family environment of the three distinguished educators whose early graduation has been cited upon this platform, I believe every one will agree with me that the age at which they grasped the diplomas upon which their attainments have shed such lustre was due solely to the care with which these early precious and priceless years were husbanded. Like care of these years with all might not give us educators as distinguished, or of abilities as varied, but it would give us men graduated as early, for in these early years it is as easy to educate one as another, if the years are each and all properly employed. It is the duty of public education, and of that greater public which educates us all, to furnish to every one the precise advantages of early and prevenient watchfulness which provides for the mass the advantage which parental care and family traditions of learning secure already for the few. Democracy in education is not leveling down, but leveling up. It is not slackening the pace of the advance for the rear to reach the front, but quickening the rear until it is on a level with the advance.

For the age at which our students leave their professional training and enter upon the active duties of life, our colleges are to-day not responsible, nor will they become responsible until they cease to maintain those existing requirements which render necessary adequate elementary education under penalty of a late entrance upon life. Since the community, and not the college, is responsible for the absence of early and coordinated elementary training, who shall yield—the college, which is right, or the community, which is wrong? The college, which is discharging its duty to higher education, or the community, which is neglecting its duty to the millions of children entrusted to its care? There can be but one answer to this question. The only plea which can be made in response is that pitiful one known to lawyers as "a plea in confession and avoidance." It may be admitted that the colleges are right in their requirements, and yet urged that, by raising their requirements in advance of the community, they have passed, in their supply of higher education, out of touch with and in advance of the demand of the community for it; that they are failing to receive their full proportional share of stu-

dents, and that our system of higher education, taken as a whole and beginning with our secondary schools, no longer carries as large a proportion through all its steps as was once the case, when requirements were lower. It would be a grave indictment of the skill with which our institutions of learning have been managed if this were true, if their influence had not sufficiently leavened the great mass of the community so that the number who sought their doors and passed through all their chambers of learning was year by year diminishing instead of increasing. But this is not true. One just answer to this grave charge is the numerical record of those who pass through our institutions of learning. Personal impressions, vague, fleeting observation, casual in record and in detail, however long continued or however fervently believed, these are all worthless by the side of patient examination of the records. Such an examination, less complete than I could wish, but more complete, I believe, than any previous, I have made.

It is almost a self-evident proposition that if, in any system of higher education, the requirements have been raised in advance of the community, then the proportion of those who, beginning, continue to the end, will diminish. If, on the other hand, the advance in requirements wins the confidence of the community, and on the average furnishes results in life commensurate with the greater effort, then this proportion of those who perdure to the end will increase. If the institution and the community have fairly kept step, and the two have risen together, then the proportion of those who, once beginning a course of liberal learning, attain graduation, will remain substantially unaltered over a long term of years. No proposition in education is without its exception; but this seems to offer at least a sound basis for investigation.

I sought first the fitting schools. I found, with a solitary exception, not one of the larger fitting schools could give me information as to the ultimate place which their students took in the world of education. The solitary exception was the Lawrenceville School. You will, I hope, permit me to congratulate its head, Dr. Mackenzie, our president, on records unknown in any other secondary school to which I addressed my inquiries, tracing every boy graduated through college. At Lawrenceville, during the five years 1885-89, seventy-five students were graduated, and of these, seventy-three, or 97

per cent, have taken their degrees, fifty-four at Princeton and ten at Yale. Encouraging as this proportion is, and unexampled in the high per cent, the period covered is too short for any general deductions.

Finding no records elsewhere available, I obtained from the academy of which I have the honor to be a graduate—Phillips, Andover—through the courtesy of its principal, Dr. Bancroft, a file of its catalogues for the past sixty years, or from 1838 to the present time, and I have had compared, name by name, the seniors in these catalogues with the alumni lists of seven colleges. Manifestly, if increasing college requirements have outstripped public demand and desire, the proportion of Andover seniors who gain a college diploma would diminish, because, for various reasons, the number of men who dropped out by the way would increase. In the fifty-three years from 1838 to 1889, inclusive, there have been 2125 seniors in the institution, of whom 1298, or 60.1 per cent, appeared as alumni in the general college catalogues of Amherst, Brown, Dartmouth, Harvard, Princeton, Williams and Yale; and those who know Phillips Academy will agree that these institutions fairly cover the college terminals of that school during the last half century. When I came to compare the total number of seniors with those who reached college graduation, I found that for all these years the proportion has remained substantially unchanged. Dividing the half century into ten five-year periods, beginning with 1841, and the proportion rises and falls with the times. In the first three years, 1838-40, the proportion shrank in the shadow of panic to 43 per cent, the lowest in the entire period in which each of five decades saw an advance in college requirements. In the first decade the highest proportion was reached — 69 per cent from 1841-45; reached again 1851-55, and matched at the close in 66 per cent in 1881-85. With unvarying regularity, when depression or war comes, this proportion responds. From 56.5 per cent in 1861-70, it rose to 62 per cent in 1871-75, dropped to 54 per cent 1876-80, rose to 66 per cent 1881-85, and fell to 58 per cent in 1886-89, reflecting accurately not the stress of college requirements, but of business and trade. Taking the entire period, and the proportion of men graduating at college for the first twenty-five years was 62 per cent of the seniors graduating at Andover, and in the last twenty-five years it was 59

per cent. Considering the wide alteration in college requirements, and this uniformity is amazing. Would it be maintained if college and community were not in touch?

A priori, I would have said that the chances that a senior at Andover would four years later, after passing a college examination annual, and years of arduous study, reach a college diploma, were less than the chances that boys who had entered as juniors at Andover would remain at that one school until they became seniors. I had forgotten the carelessness with which American parents watch over the early education of their children. When the college fit begins, the family plans are unsettled, boys are lightly removed, deficient elementary training weeds out many. Get a boy to senior year at Andover (any other school would probably show the same return), and the momentum of a co-ordinated course carries him through. In this fifty-three years there have been catalogued at Andover 3203 juniors. Of those only 881, during the three or four year course, reached the senior year—27 per cent. Only three in ten, on the average, for the entire period; when the average of the seniors who reached a college diploma is six in ten—61 per cent. But the average of school permanence has been rising. Omitting the first three years which I have under consideration, the share of juniors reaching the senior year in twenty-five years, 1841-65, was only 21 per cent; during the last twenty-five years it had risen to 31 per cent. Does this look as if the increased requirements, more strenuous college examinations, and a longer fit had drawn away from the community?

Turn to the colleges. The college of which I have the honor of being an alumnus—Amherst—has in the last seventy-five years, 1822-95, graduated 4883 persons. It has had among those who were matriculated, 6797 in all, 1714 persons who failed to be graduated. The proportion for the entire period is 71 per cent. For reasons every one familiar with the history of the college will understand, the proportion graduated in the first four years, 1822-25, was very large—87 per cent. In the seventy years since, the proportion of graduates to matriculates has remained substantially uniform. It was highest 1826-30—76 per cent—and in 1886-90 it again reached a like figure—75 per cent. The first twenty-four years the proportion of matriculates graduated was 72 per cent; in the next

twenty-five years 70 per cent, and in the next 72 per cent. The determination to secure a college training is evidently not affected by an advance in this three-quarters of a century in the time needed for college preparation from two to almost four years. Is there any reason why Amherst, taking the last fifty years, in which she has been steadily raising her standards, when she sees her graduates increase from some 1443 in the first twenty-five years, to some 1910 in the last twenty-five years, and the proportion of those who were graduated, compared with the entire number, steadily increasing—is there any reason why Amherst should imagine that she has got out of touch with the community by advancing her requirements?

This investigation is only possible in a college where records are sedulously kept by classes. This is the case at Yale. The class histories at Yale for the last thirty years have been compiled for me by Professor Frederic Wells Williams. I find that during thirty years—and a thirty years of storm and stress in which the college tide of examination has been steadily rising—there have been graduated there some 4091 persons. There were 1607 persons who, having succeeded in matriculating, failed, for various reasons, to obtain a diploma; but when we divide this period by five-year periods, we find that the proportion has steadily increased; and without wearying you with the details of the six five-year periods, in the first fifteen years of the thirty, Yale graduated 1727 persons, who were 63 per cent of those who presented themselves for a diploma; and in the next fifteen years, still steadily advancing both its examinations and the requirements for the college degree, the number of graduates had risen to 2244, and the proportion which they bore to the aggregate of matriculants had increased to 72 per cent. Is there anything in the experience of this great university that indicates that the advance in its college requirements has thrown it out of touch with the supply and the desire of adequately trained men, fit to take the college course?

President Eliot referred yesterday to the Sheffield Scientific School as one which had remarkably increased its requirements. For the past twenty years the records of its classes are accessible at the Sheffield Scientific School. Divide this into two parts by ten years, and Sheffield has seen the number of those graduated rise from 467 to 937, and the proportion of

those graduated to matriculates, which began at 56 per cent, reaching an average in the first ten years of only 61, has advanced in the last ten years up to 73 per cent of those who were matriculated in that scientific school. Can there be any clearer or more competent answer to the plea that the colleges have advanced their requirements beyond the demands of the community?

The University of Pennsylvania, which has compiled a catalogue of matriculates from 1757 to 1893, furnishes an opportunity to follow this proportion through nearly a century and a half, in which 4987 matriculates have furnished 2580 graduates and 2407 non-graduates. It is impossible, following this record, where the proportion for the entire period is 51 per cent, to see any connection between requirements and attendance or graduation. The demand for a college course and a college degree is constant in the community. The colleges have only to establish their own fit standards, and the community will rise to them to secure what it cannot elsewhere obtain—a liberal education.

I have perhaps sufficiently shown that advancing requirements have left unchanged the proportion of those who, having obtained a college fit, pass on to a college degree, and increased the proportion of those who, having matriculated, are graduated. We are assured, however, that men are skipping the college course in order to enter the professional schools. Even here this depends altogether upon whether the college and the professional school hold their opportunities and privileges high, or cheapen them. Take Michigan and Harvard. An examination of the general catalogues of both these institutions shows that for thirty years in Michigan (1866-90) the proportion of men with the degree of A. B. on beginning their medical course, whether from Michigan or from other institutions, has been in 400 only 3 per cent, and has never varied more than 1 or 2 per cent during the entire period, and shows no signs of increasing, being 5 per cent for the first five years, 1866-70, and 5 per cent for the last, 1886-90. The proportion in its law school, out of a total of 306, is on an average 8 per cent, and in all the twenty-five years has remained on this level, a level so low that one might feel that the number of liberally educated men leaving Michigan University in these professions is not large enough to leaven the

lump. At Harvard a somewhat different plan has been followed, and the proportion in the medical school of those who have taken a college degree has risen from 20 to 40 per cent, being 36 per cent out of 1975 for thirty years, and the proportion in the law school from 44 to 76 per cent, standing at 62 per cent out of 1264 graduates, 1866-95. It is possible, gentlemen and ladies, that if Michigan had been a little less anxious to "connect" with the high schools of its state, the graduates of those high schools would have thought twice before they skipped a college course in order to enter her professional schools. [Applause.]

How is it at this university, which has been for twenty years advancing the standard of medical education, and in which the proportion of men with a college degree has risen, in five-year periods during the last twenty years, from 8 to 23 per cent? The age of graduation has also advanced from 24 to 27 per cent; but I submit to you if this is not a light price to pay for adding to a great profession one-fourth of liberally educated men? There have been here no entrance examinations to the medical school; but, believe me, if professional training is made what it should be, it becomes impossible for a man to meet its arduous labors unless he enjoys the advantages of a liberal training. [Applause.]

In theological schools, I regret to say that altogether a different average appears. At Andover, at Auburn, at Princeton and in Chicago there has been in the past thirty years a steady and continuous fall in the proportion of college-educated men entering the ministry, which, in the case of Princeton, in five-year periods for the last thirty years, passed from 92 to 83 per cent. For the entire period, out of 1706 graduates, 1507 had the degree of A. B., or 88 per cent. A precisely similar fall has taken place at Andover, from 94 to 87 per cent. In all, out of 602 graduates, 529 were college graduates, or 87 per cent. But at Andover there was a record of the age at which men were graduated and when one examines that record one finds that, while the proportion of educated men had fallen from 94 per cent in 1866-70 to 87 per cent in 1891-95, the age of those graduating had increased from 27.6 to 28.7—a full year. Gentlemen and ladies, what has taken place is not that men are skipping the college course so as to reach active life earlier, but that the churches are unwisely permitting men who had neglected their early education to make a short cut to the min-

istry through the easy, open doors of a theological seminary. [Applause.] At Berkeley the proportion, on the other hand, is unchanged through the period, and for thirty years, out of 305 graduates, 231, or 75 per cent, were educated men.

Believe me—and I speak from a wide experience as a correspondent in legislatures—what this country asks from us is not the cheapest and the quickest, but the best thing. The real issue presented by this great problem is whether the colleges, who know what they are about, shall insist on standards under which they are not only maintaining, but increasing, their numbers, until scarcely a college but has all it can educate with existing resources, or whether they shall yield to what some, often among their own leaders, assume to be the demand of the general public, because it has taken shape in the provision in our high schools of an education which we are all agreed does not lead along the best path for complete mental training, but which exists, and appears likely to furnish an increasing number of students, whose preparation may be inadequate, but whose numbers and tuition fees will add as much to the apparent importance and revenue of a college as students whose qualifications fit them to take their places in the intellectual march of civilization. Such issues, backed apparently by popular sentiment, are perpetually appearing under democratic conditions, and there are always those who advise us to yield to what is assumed to be the voice of the many before it is ascertained whether it is in truth the decision of all. Fresh from the strenuous struggle which has just closed in the field of politics, some of us have come to feel that the way in which to meet the specious plea of the demagogue is not to descend to his level, but to rise to heights where he cannot follow, or, following, grows dizzy with pure air of truth, and, stumbling, falls to his lasting undoing. [Applause.] After the triumphant vindication which was offered us four weeks ago of the sober sense and high honesty of the American people when a great issue has been properly and fully presented to them, I, for one, do not believe that, when all the facts have been stated, the American people will be willing to pay the just debt of education in the cheaper coin of easier studies. If we do our duty in educating the masses and asserting truth, I believe that they will do their duty in insisting that the national obligation to the learning of the past and to the instruction of the future shall be paid in training and attainments

which have been recognized in all times, and are accepted by all civilized peoples as full legal tender for an education the world over. [Applause.] We can, if we will, cheapen the coin in which we settle our education, but we cannot do this without breaking our intimate connection with the education of the civilized world and falling back to the rear among those nations which are satisfied with an education which fails to share the best fruits of the past, and lays no foundation for the future in seeking the material interests of the present.

I regret to hear the suggestion that in the wealthiest country in the world, with wealth diffused as it never was before, with evidence on every side of a lavish personal expenditure, there should be any question as to the fullest possible education. I cannot believe that it ought to be considered either desirable or possible for any institution to make it easy or attractive for young men to skip any part of the sedulous training which is needed in order to fit man, not merely for his personal life, but for that wider national life which exists and flourishes in those hid fountains of the best, unlocked only by the study of the classics. It will be an equal mistake to lower requirements or to make them broad by substituting easier studies for this strenuous discipline, which every man brought in contact with education knows is the real test, not of the ability to accumulate facts or to repeat theories, but to use the mind in the solution of intellectual problems.

I have been struck, as I sat here, with the comment now and then apparent, and almost always present as an undertone in the thought and sentiment of the speakers, that the leaders of our college world, and the college world itself, stood, somehow, in opposition, in its desires and demands, to the wishes and instincts of the world without. It is always natural for those who prophesy in behalf of a higher ideal, to ask in weariness whether their report is believed, and whether to any the arm of their strength has been revealed; but I trust you will not forget that there are outside of college walls those, and no small number, who, under circumstances less favorable and an environment more unfriendly, are engaged in fighting the same battle as your own for higher standards, for rigorous attainments, for a continuous contact and communion with the great past, in the hope of preserving a still greater future.

Standing here as I do on this platform, face to face with the visible garrison of the citadel of learning in these Middle

States—the very centre of our national life—I implore you to remember that these men, scattered and unknown, are watching the flag which you guard. Do not lower it, do not widen the gates of admission to the very centre of our education, or make its approaches broad and easy in deference to what is assumed to be a popular demand. The colleges of America stand upon a high mountain of privilege, raised by the pious offerings of generations. I trust that they may never, under any false or forgetful leadership, descend to the plain and a lower level, for no better reason, I fear, than to join the multitude in the worship of the golden calf, or to submit learning to the suffrage of mere numbers.

The following tables owe much, and still more, to the patient care with which Miss Elizabeth Davidson has compiled them from the blanks, graduate lists and catalogues:

I.

Fitting Schools.

A. Phillips, Andover. B. Lawrenceville.

The cost of printing these tables was borne by Messrs. Joseph G. Rosengarten, E. W. Clark and John H. Converse.

A. Phillips Academy, Andover, Mass. The following table gives the number of persons in each senior class in the catalogues of the Academy (kindly loaned by Principal C. F. P. Bancroft) from 1838 to 1889, whose names also appear as graduates in the general catalogues of Amherst, Brown, Dartmouth, Harvard, Williams, Yale, Princeton and Bowdoin. While this does not cover all the colleges to which Phillips, Andover, sends its graduates, it is believed that the proportion sent to those colleges has not essentially altered in the last fifty years, so that the comparative statement is a fair one.

The last column gives the number of names appearing as juniors who appear later in the same class as seniors. This tabulation makes no account of men who drop back a class, and none of those who enter midway in the course; it only indicates the per cent of men who, entering the junior class and remaining there long enough to have their names printed in the Andover catalogue, are still members of the same class when the course at the Academy is completed:

PHILLIPS ACADEMY.

Class.	Sr.	A.	Br.	D.	H.	W.	V.	Pr.	Bow.	Total	Per Cent.	Jr.	Sr.	Per Cent.
1838	21	2	2	3	3	—	4	—	1	15	73	—	21	—
1839	35	1	1	4	5	—	2	—	—	13	37	99	26	25
1840	35	3	3	3	8	1	1	—	1	20	48	88	31	39
Total	91	6	6	10	16	1	7	—	2	48	52	187	78	41
1841	19	3	1	1	2	—	4	—	—	11	57	45	15	33
1842	17	3	—	3	2	—	2	—	2	12	70	45	8	17
1843	27	3	1	1	5	1	7	2	3	23	88	56	16	28
1844	21	1	1	2	1	2	5	—	—	12	57	53	7	13
1845	16	1	—	1	4	1	1	—	1	9	62	57	7	12
Total	100	11	3	8	14	4	19	2	6	67	67	256	53	20
1846	24	6	—	2	2	—	4	—	—	14	58	80	15	18
1847	40	1	1	7	8	—	5	1	1	24	60	62	19	30
1848	33	3	—	4	6	3	7	1	1	25	75	63	11	17
1849	26	4	—	3	4	—	4	—	1	16	61	55	8	14
1850	26	3	—	6	4	1	5	2	2	23	78	48	9	18
Total	149	17	1	22	24	4	25	4	5	102	68	308	62	20
1851	24	2	—	1	3	1	7	—	1	15	62	47	9	19
1852	35	5	1	3	7	1	4	—	4	25	71	47	20	42
1853	43	2	1	3	3	6	14	1	1	31	72	61	13	21
1854	64	4	3	4	14	1	14	1	1	42	82	89	28	31
1855	53	2	—	8	7	1	9	2	3	32	60	78	16	20
Total	219	15	5	19	34	10	48	4	10	145	66	322	86	26
1856	55	—	—	8	9	2	20	—	2	41	74	108	16	48
1857	54	3	—	8	6	6	9	1	—	33	64	95	24	25
1858	61	4	—	4	3	9	14	—	2	36	60	90	32	35
1859	64	1	1	1	7	2	28	1	1	42	65	91	26	28
1860	53	2	—	5	9	2	11	—	2	31	54	94	21	22
Total	287	10	1	26	34	21	82	2	7	183	63	478	119	24
1861	73	9	5	3	8	4	19	5	2	55	65	111	30	27
1862	46	1	1	2	3	1	11	—	2	21	45	63	13	20
1863	51	3	2	—	6	2	11	—	2	26	50	75	12	14
1864	44	2	—	1	4	—	13	1	4	25	47	61	18	29
1865	48	4	—	4	8	—	14	—	2	32	66	50	15	30
Total	262	19	8	10	29	7	68	6	12	159	60	360	88	24
1866	51	3	—	3	5	—	17	—	—	28	54	80	18	22
1867	52	—	1	—	20	2	6	—	—	29	55	80	14	17
1868	54	4	—	2	6	—	15	—	—	27	50	81	23	28
1869	49	11	—	3	7	—	9	—	—	30	61	65	22	33
1870	58	10	2	2	8	—	14	2	1	39	65	74	24	32
Total	264	28	3	10	46	2	61	2	1	153	57	380	101	26
1871	48	2	—	4	7	—	16	4	—	33	68	57	18	31
1872	56	8	—	1	15	1	11	—	2	38	64	71	19	26
1873	38	4	3	1	6	1	7	1	—	23	60	50	15	30
1874	41	7	—	2	7	1	5	1	—	23	56	58	12	20
1875	43	5	—	—	4	1	16	—	—	26	60	66	22	33
Total	226	26	3	8	39	4	55	6	2	143	63	302	86	28
1876	30	1	1	1	3	1	8	1	1	17	53	51	8	15
1877	31	2	2	1	3	1	5	1	2	17	48	19	9	47
1878	33	2	—	1	3	—	9	1	1	17	48	29	10	34
1879	34	5	4	—	4	—	7	—	—	20	58	23	14	60
1880	35	5	—	—	5	2	6	4	1	23	62	28	9	32
Total	163	15	7	3	18	4	35	7	5	94	57	150	50	33
1881	28	4	—	—	2	—	8	—	—	14	50	34	9	26
1882	38	3	—	1	3	3	10	1	—	21	55	51	13	25
1883	45	1	1	1	7	2	19	1	—	32	77	52	20	38
1884	42	8	1	—	7	—	12	1	—	29	71	41	20	48
1885	30	2	1	2	6	2	6	2	—	21	73	46	19	41
Total	183	18	3	4	25	7	55	5	—	117	63	224	81	36
1886	44	1	—	1	13	4	7	2	1	29	59	67	21	31
1887	39	4	—	—	5	1	14	1	—	25	64	51	16	31
1888	47	—	—	1	8	—	20	—	1	30	63	56	20	35
1889	51	1	—	1	9	—	18	1	—	30	58	62	23	37
Total	181	6	—	3	35	5	59	4	2	114	62	236	80	33

SUMMARY BY FIVE YEAR PERIODS.

PERIOD.	Sr.	A.	Br.	D.	H.	W.	Y.	Pr.	Bow.	Total	Per Cent.	Jr.	Sr.	Per Cent.
1838-40	91	6	6	10	16	1	7	—	1	47	51	187	78	41
1841-45	100	11	3	8	16	4	19	2	6	67	69	256	53	20
1846-50	149	17	1	22	24	4	25	4	5	102	65	308	62	20
1851-55	219	15	5	19	34	10	48	4	10	145	66	322	86	26
1856-60	287	10	1	26	34	21	82	2	7	183	63	478	119	24
1861-65	262	19	3	10	29	7	68	6	12	154	60	360	88	24
1866-70	264	28	3	10	46	2	61	2	—	152	57	380	101	26
1871-75	226	26	3	8	39	4	55	6	2	143	63	302	86	28
1876-80	163	15	7	3	18	4	35	7	5	94	57	150	50	33
1881-85	183	18	3	4	25	7	55	5	—	117	63	224	81	36
1886-89	181	6	—	4	35	5	59	4	2	115	63	236	80	33
Total	2125	171	35	124	316	69	514	42	50	1321	62	3203	881	27

B.—LAWRENCEVILLE SCHOOL.

Lawrenceville, N. J. Session 1884 to 1889 who have been graduated at any college.

CLASS.	Sr.	Pr.	Y.	H.	Trin.	U. P.	Colb.	Mass. Inst. Tech.	Total	Per Cent.
1884	2	2	—	—	—	—	—	—	4	100
1885	5	4	—	—	—	—	—	—	4	80
1886	24	18	4	—	—	—	—	—	22	91
1887	13	8	3	1	1	—	—	—	13	100
1888	18	12	2	—	—	1	1	—	16	88
1889	15	12	1	1	1	1	1	1	18	83
Total	75	54	10	2	2	2	2	1	73	97

II.

COLLEGES.

1. Number graduated in each class, compared with total belonging to same class for four years:

   A. Amherst, 1821-1892.
   B. University of Pennsylvania, 1757-1895.
   C. Yale, 1866-1895.

2. Proportion of graduates each year to total number of matriculates in same year:

   A. Cornell, 1866-1896.
   B. Johns Hopkins, 1876-1895.
   C. Lafayette, 1866-1895.
   D. Princeton, 1866-1895.
   E. Swarthmore, 1871-1895.
   F. Brown, 1866-1895.

The following tables give the number of graduates, non-graduates, and the total number belonging to each class during the entire four years, for Amherst, Yale and the University of Pennsylvania, for varying periods: In the case of Amherst, from the foundation of the college to 1892; in the case of Yale, from 1866 to 1895, and in the case of the University of Pennsylvania, during its existence. In the case of Amherst, these figures are compiled by taking the catalogue of graduates and non-graduates published in 1892-93; in the case of Yale, they have been compiled from the statistics of each class in the college library by Professor Frederick Wells Williams, to whom my thanks are due; in the case of the University of Pennsylvania, they have been compiled from the "Matriculates of the College," published in 1894, carrying the figures back to 1757.

The original purpose was to give these facts for a number of colleges in the period since the war—1866-1895. Owing to the paucity of records, this had to be abandoned.

A comparison between the number of graduates and the total number of matriculates is furnished, in the college departments only, for Cornell (1869-96), Johns Hopkins (1876-95), Lafayette (1866-95), Princeton (1866-95) and Swarthmore (1871-95). In making comparison, the differing length in years of courses must be borne in mind.

In a four-year course, if all who matriculated were graduated, the proportion of graduates to the entire number of matriculates would be exactly 25 per cent, and any failure to be graduated would make the proportion of graduates less. Where the course is three years after matriculation, as in Johns Hopkins, this proportion would be 33 per cent. Where short courses are introduced, as in Cornell, the proportion of those graduated will increase proportionately. The only rigorous method of ascertaining whether those who begin a college course and complete it are, in a given period, a larger or smaller share of the whole is through a comparison for a term of years by classes; but in some college departments, as at Harvard, no such comparison is possible. Nor was it possible, in this institution, even to make the comparison between matriculates and graduates.

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Tables showing the number of persons graduated out of the total number belonging to the class: For Amherst, 1822-96; Pennsylvania, 1757-1893; Yale, 1866-95:

A.—AMHERST COLLEGE.

(Compiled from the list published in the catalogue of 1892-93 of "Graduates and Non-Graduates," with additions by W. I. Fletcher, Librarian, to-date.)

Class.	Graduates.	Non-Graduates.	Total in Class.	Per Cent Graduates.
1822	6	—	6	—
1823	10	1	11	90
1824	40	1	41	97
1825	50	13	63	79
Total	106	15	121	87
1826	60	19	79	75
1827	46	18	64	71
1828	79	11	90	87
1829	80	21	101	79
1830	60	31	91	65
Total	325	100	425	76

AMHERST COLLEGE—Continued.

Class.	Graduates.	Non-Graduates.	Total in Class.	Per Cent Graduates.
1831	110	28	138	67
1832	74	24	98	75
1833	71	31	102	69
1834	75	22	97	77
1835	76	42	118	64
Total	406	147	553	73
1836	67	44	111	60
1837	98	47	145	67
1838	74	32	106	69
1839	101	28	129	78
1840	76	37	113	67
Total	416	188	604	68
1841	54	30	84	64
1842	46	23	69	66
1843	32	24	56	57
1844	48	30	78	61
1845	47	21	68	69
Total	227	128	355	63
1846	42	14	56	75
1847	30	13	43	69
1848	40	18	58	60
1849	50	14	64	78
1850	38	16	54	70
Total	200	75	275	73
1851	59	27	86	68
1852	62	30	92	67
1853	64	23	87	73
1854	54	28	82	65
1855	72	33	105	68
Total	311	141	452	68
1856	60	25	85	70
1857	58	35	93	62
1858	69	31	100	69
1859	65	25	90	72
1860	59	34	93	63
Total	311	150	461	67
1861	62	29	91	68
1862	76	30	106	71
1863	60	29	89	67
1864	44	23	67	65
1865	87	20	107	81
Total	329	131	460	71
1866	60	27	87	68
1867	61	23	84	72
1868	46	18	64	71
1869	63	21	84	75
1870	62	26	88	70
Total	292	115	407	71
1871	66	36	102	64
1872	54	29	83	65
1873	56	34	90	62
1874	75	25	100	75
1875	53	18	71	74
Total	334	132	466	71
1876	74	32	106	69
1877	81	28	109	74
1878	86	34	120	71
1879	75	29	104	72
1880	72	26	98	73
Total	388	149	537	72
1881	79	31	110	71
1882	72	35	107	67
1883	94	37	131	71
1884	79	27	106	74
1885	84	34	118	71
Total	408	164	572	71

AMHERST COLLEGE—Continued.

Class.	Graduates.	Non-Graduates.	Total in Class.	Per Cent Graduates.
1886	72	27	99	72
1887	70	21	91	76
1888	90	27	117	76
1889	97	28	125	77
1890	65	27	92	70
Total	394	130	524	75
1891	80	28	108	74
1892	80	31	111	72
1893	80	41	121	66
1894	67	16	83	80
1895	76	23	99	66
Total	383	139	522	73

Summary by Five Year Periods.

Period.	Graduates.	Non-Graduates.	Total in Period.	Per Cent Graduates.
1822–25	106	15	121	87
1826–30	325	100	425	76
1831–35	406	147	553	73
1836–40	416	188	604	68
1841–45	227	128	355	63
1846–50	200	75	275	73
1851–55	311	141	452	68
1856–60	311	150	461	67
1861–65	329	131	460	71
1866–70	292	115	407	71
1871–75	334	132	466	72
1876–80	388	149	537	72
1881–85	408	164	572	71
1886–90	394	130	524	75
1891–95	383	139	522	73
Total	4830	1914	6744	71

B.—UNIVERSITY OF PENNSYLVANIA.

(Compiled from "Matriculates of the College.")

Class.	Graduates.	Non-Graduates.	Total in Class.	Per Cent Graduates.
1757	6	9	15	40
1758	—	—	—	—
1759	11	9	20	55
1760	8	5	13	61
Total	25	23	48	52
1761	13	7	20	65
1762	6	4	10	60
1763	9	3	12	75
1764	—	—	—	—
1765	7	8	15	46
Total	35	22	57	61
1766	12	1	13	92
1767	6	—	6	—
1768	8	—	8	—
1769	6	—	6	—
1770	14	—	14	—
Total	46	1	47	95
1771	14	—	14	—
1772	2	1	3	66
1773	5	—	5	—
1774	—	—	—	—
1775	8	—	8	—
Total	29	1	30	96

UNIVERSITY OF PENNSYLVANIA—Continued.

Class.	Graduates.	Non-Graduates.	Total in Class.	Per Cent Graduates.
1776	7	—	7	—
Between 1776 and 1780, there are no records.				
1780	8	15	23	34
1781	6	—	6	—
1782	16	—	16	—
1783	11	—	11	—
1784	8	1	9	88
1785	5	—	5	—
Total	54	16	70	77
1786	9	—	9	—
1787	8	—	8	—
1788	7	—	7	—
1789	17	—	17	—
1790	9	—	9	—
Total	50	—	50	—
1791	15	—	15	—
1792	24	2	26	92
1793	21	1	22	95
1794	9	—	9	—
1795	15	—	15	—
Total	84	3	87	95
1796	—	—	—	—
1797	3	—	3	—
1798	—	—	—	—
1799	8	2	10	80
1800	5	—	5	—
Total	16	2	18	88
1801	—	—	—	—
1802	5	—	5	—
1803	5	3	8	62
1804	8	—	8	—
1805	4	—	4	—
Total	22	3	25	88
1806	—	—	—	—
1807	8	—	8	—
1808	18	—	18	—
1809	—	—	—	—
1810	13	1	14	92
Total	39	1	40	97
1811	21	—	21	—
1812	16	3	19	84
1813	13	—	13	—
1814	—	—	—	—
1815	15	3	18	83
Total	65	6	71	91
1816	7	5	12	58
1817	8	11	19	42
1818	7	—	7	—
1819	18	19	37	48
1820	17	3	20	85
Total	57	38	95	60
1821	35	1	36	97
1822	26	—	26	—
1823	23	1	24	95
1824	14	3	17	82
1825	14	4	18	77
Total	112	9	121	92
1826	8	14	22	36
1827	16	4	20	80
1828	11	2	13	84
1829	11	3	14	78
1830	8	3	11	72
Total	54	26	80	67

UNIVERSITY OF PENNSYLVANIA—Continued.

Class.	Graduates.	Non-Graduates.	Total in Class.	Per Cent Graduates.
1831	20	13	33	60
1832	25	15	40	62
1833	25	23	48	52
1834	14	25	39	35
1835	20	15	35	57
Total	104	91	195	53
1836	13	14	27	48
1837	18	16	34	52
1838	22	20	42	52
1839	20	10	30	66
1840	15	16	31	48
Total	88	76	164	53
1841	33	20	53	62
1842	23	16	39	58
1843	29	14	43	67
1844	20	24	44	45
1845	21	26	47	44
Total	126	100	226	56
1846	29	30	59	49
1847	18	28	46	39
1848	19	27	46	41
1849	19	17	36	52
1850	25	12	37	67
Total	110	114	224	49
1851	20	13	33	60
1852	21	15	36	63
1853	17	16	33	51
1854	14	15	29	48
1855	20	10	30	66
Total	92	69	161	57
1856	26	11	37	70
1857	22	18	40	55
1858	16	17	33	48
1859	30	21	51	58
1860	22	25	47	46
Total	116	92	208	55
1861	23	20	43	53
1862	25	19	44	56
1863	21	27	48	43
1864	19	36	55	34
1865	24	25	49	48
Total	112	127	239	46
1866	17	24	41	41
1867	20	25	45	44
1868	18	22	40	44
1869	19	15	34	50
1870	15	22	37	40
Total	89	108	197	45
1871	26	24	50	52
1872	31	44	75	41
1873	36	33	69	52
1874	21	43	64	32
1875	21	42	63	33
Total	135	186	321	42
1876	32	46	78	40
1877	32	53	85	37
1878	33	47	80	41
1879	41	62	103	39
1880	40	54	94	42
Total	178	262	440	40
1881	47	51	98	47
1882	48	55	103	46
1883	45	63	108	41
1884	49	59	108	45
1885	39	65	104	37
Total	228	293	521	43

UNIVERSITY OF PENNSYLVANIA—Continued.

Class.	Graduates.	Non-Graduates.	Total in Class.	Per Cent Graduates.
1886	85	100	185	45
1887	94	77	171	54
1888	45	75	120	37
1889	57	60	117	48
1890	48	67	115	41
Total	329	379	708	46
1891	39	124	163	23
1892	59	101	160	36
1893	87	134	221	39
1894	—	—	—	—
1895	—	—	—	—
Total	185	359	544	34

Summary by Five Year Periods.

Period.	Graduates.	Non-Graduates.	Total in Period.	Per Cent Graduates.
1757–60	25	23	48	56
1761–65	35	22	57	61
1766–70	46	1	47	97
1771–75	29	1	30	96
1776–80 (No record)	—	—	—	—
1781–85	54	16	70	77
1786–90	50	—	50	—
1791–95	84	3	87	96
1796–1800	16	2	18	88
1801–05	22	3	25	8
1806–10	39	1	40	97
1811–15	65	6	71	91
1816–20	57	38	95	60
1821–25	112	9	121	92
1826–30	54	26	80	67
1831–35	104	91	195	53
1836–40	88	76	164	53
1841–45	126	100	226	55
1846–50	110	114	224	49
1851–55	92	69	161	57
1856–60	116	92	208	55
1861–65	112	127	239	47
1866–70	89	108	197	45
1871–75	135	186	321	42
1876–80	178	262	440	40
1881–85	228	293	521	43
1886–90	329	379	708	46
1891–93	185	359	544	34
Total	2580	2407	4987	51

C.—YALE UNIVERSITY.

(Compiled from "Class Statistics," in College Library.)

Class.	Graduates.	Non-Graduates.	Total in Class.	Per Cent Graduates.
1866	97	61	158	61
1867	103	61	164	62
1868	108	69	177	61
1869	116	64	180	64
1870	113	65	178	63
Total	537	320	857	62
1871	104	67	171	60
1872	129	69	198	65
1873	114	61	175	65
1874	122	60	182	67
1875	96	58	154	62
Total	565	315	880	64

YALE UNIVERSITY—Continued.

Class.	Graduates.	Non-Graduates.	Total in Class.	Per Cent Graduates.
1876	123	61	184	66
1877	117	43	160	73
1878	127	59	186	68
1879	136	66	202	67
1880	122	53	175	69
Total	625	282	907	68
1881	128	58	186	68
1882	121	74	195	62
1883	149	47	196	76
1884	151	51	202	74
1885	121	52	173	69
Total	670	282	952	70
1886	139	50	189	73
1887	149	38	187	79
1888	124	31	155	80
1889	124	25	149	83
1890	146	31	177	82
Total	682	175	857	79
1891	185	37	222	83
1892	179	45	224	79
1893	184	50	234	78
1894	235	49	284	82
1895	248	52	300	82
Total	1031	233	1264	81

Summary by Five Year Periods.

Period.	Graduates.	Non-Graduates.	Total in Period.	Per Cent Graduates.
1866–70	537	320	857	62
1871–75	565	315	880	64
1876–80	625	282	907	68
1881–85	670	282	952	70
1886–90	682	175	857	79
1891–95	1031	233	1264	81
Total	4110	1607	5717	71

Tables giving proportion of persons graduated to total number in attendance for: A. Brown, 1866-95; B. Cornell, 1869-86; C. Johns Hopkins, 1876-95; D. Lafayette, 1866-95; E. Princeton, 1866-95; F. Swarthmore, 1871-95:

III.

Scientific Schools.

A. John C. Green School of Sciences. B. Sheffield Scientific School: (a) Graduates and non-graduates by *classes;* (b) Matriculates and graduates by *years.*

The scientific school, for some of its students who are college graduates, plays the part of a professional school; but for most it

furnishes both general cultivation and special professional training. An effort was made to find whether the proportion of college graduates entering the scientific schools, and graduated therefrom, had increased or diminished; but in most cases, probably in all, no such record is kept. The Alumni Association of the Columbia School of Mines has 550 members, out of a total of 990 graduates of the institution from 1867 to 1895. From the "Lute of the Alumni of Columbia College School of Mines," 1896, compiled by Professor Frederick Remsen Hutton, it appears that of 550 members of the Alumni Association, 40 had the degree of A. B. These were distributed as follows, by classes, in five-year periods: 1867-70, 11; 1871-75, 3; 1876-80, 9; 1881-85, 12; 1886-90, 3; 1891-95, 2. But as the record of the Alumni Association covered only about half the total number of graduates, the return is not given in detail. The decrease of college graduates in this selected group is, however, noticeable.

In the John C. Green School of Sciences (Princeton), a return of graduates and non-graduates by classes could not be obtained. The table following gives the graduates in each year, the number in matriculation in that year, the per cent and the age at entrance and graduation.

In the Sheffield Scientific School two tables are presented. In Table (a) graduates and non-graduates are recorded by classes, the return having been compiled from the class histories by Mr. Frederick W. Williams. This shows the number graduated, as compared with the total number belonging to a class for its entire period. In Table (b) the comparison is between the number of graduates in each year and the total number in matriculation. One table gives the proportion graduated by *classes*, and the other by *attendance*. The harmony between the results reached is striking.

A.—JOHN C. GREEN SCHOOL OF SCIENCE.

Class.	Graduates	Matriculates less Graduates.	Matriculates.	Per Cent Graduates to total Matriculates.	Average Age Matriculates.	Average Age Graduates.
1874.....	—	—	13	—	18.8	20.4
1875.....	—	—	17	—	17.9	21.6
Total.....	—	—	30	—	18.3	21

JOHN G. GREEN SCHOOL OF SCIENCE—Continued.

CLASS.	Graduates.	Matriculates less Graduates.	Matriculates.	Per Cent Graduates to total Matriculates.	Average Age Matriculates.	Average Age Graduates.
1876	8	14	22	36	17.7	22.1
1877	9	2	11	—	17.9	21.5
1878	11	12	23	47	17.5	21.7
1879	1	14	15	7	17.9	21.7
1880	8	10	18	44	18.3	22.2
Total	37	52	89	41	17.8	21.8
1881	9	7	16	56	17.5	21.6
1882	7	19	26	26	17	22.7
1883	11	23	34	32	18	22.3
1884	11	24	35	31	17.9	22.5
1885	11	17	28	39	18.2	22.4
Total	49	90	139	35	17.7	22.3
1886	17	16	33	51	17.9	22.9
1887	14	27	41	34	18.9	22.5
1888	8	27	35	22	17.2	22.2
1889	18	27	45	40	17.5	22.1
1890	22	54	76	28	17.6	21.4
Total	79	151	230	34	17.8	22.2
1891	9	79	88	10	19.5	22.7
1892	16	99	115	14	18	23
1893	24	113	137	17	18.1	22
1894	31	107	138	22	18.1	21.1
1895	53	94	147	29	18.2	22.2
Total	133	492	625	21	18.3	22.2

The following number of persons had degree of A. B. at matriculation: 1890, 1; 1891, 1; 1892, 1; 1893, 2; 1894, 5; 1895, 7. Total, 1890–95, 17.

SUMMARY BY FIVE YEAR PERIODS.

PERIOD.	Graduates.	Matriculates less Graduates.	Total Matriculates.	Per Cent Graduates to total Matriculates.	Average Age Matriculates.	Average Age Graduates.
1874–75	—	—	30	—	18.3	21
1876–80	37	52	89	44	17.8	21.8
1881–85	49	90	139	35	17.7	22.3
1886–90	79	151	230	34	17.8	22.2
1891–95	133	492	625	21	18.3	22.2
Total	298	785	1083	27	17.9	21.9

B. (a)—SHEFFIELD SCIENTIFIC SCHOOL.

CLASS.	Graduates.		Matriculates in Class less Graduates.	Total in School.	Per Cent Graduates to total in Class.	Entered as Freshmen.
1875	53		31	84	63	—
1876	51		—	—	—	—
1877	54	137	44	98	55	—
1878	40		35	75	52	—
1879	43		27	70	61	—
1880	42		—	—	—	—
Total	230		106	243	56	—

SHEFFIELD SCIENTIFIC SCHOOL.—Continued.

Class.	Graduates.	Matriculates in Class less Graduates.	Total in School	Per Cent Graduates to total in Class.	Entered as Freshmen.
1881	43	—	—	—	—
1882	36	20	56	64	45*
1883	46	31	77	59	71
1884	43	37	80	53	78
1885	69	20	89	77	83
Total	237	108	302	64	278
1886	63	25	88	71	—
1887	57	30	87	65	81
1888	77	27	104	74	104
1889	72	38	110	65	—
1890	65	47	112	58	107
Total	334	167	501	66	292
1891	88	41	129	68	127
1892	103	39	142	72	139
1893	109	31	140	77	137
1894	142	67	209	67	200
1895	161	60	221	75	206
Total	603	238	841	71	449

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* Of these 28 completed the course.

SUMMARY BY FIVE YEAR PERIODS.

Class.	Graduates.	Matriculates in Class less Graduates.	Total in Period.	Per Cent Graduates to total in Class.	Entered as Freshmen.
1875	53	31	84	63	—
1876–80	137	106	243	56	—
1881–85	194	108	302	64	278
1886–90	334	167	501	66	292
1891–95	603	238	841	71	449
Total	1268	619	1887	67	1019

B. (b)—SHEFFIELD SCIENTIFIC SCHOOL.

Year.	Graduates.	Total in School.	Per Cent of Graduates to Matriculates.
1866	8	123	6
1867	16	125	12
1868	26	137	18
1869	26	141	18
1870	25	125	20
Total	101	651	15
1871	25	149	16
1872	23	201	11
1873	29	247	11
1874	39	249	15
1875	53	230	23
Total	169	1076	15
1876	51	206	24
1877	54	194	27
1878	40	197	20
1879	43	177	24
1880	42	191	22
Total	230	965	23

SHEFFIELD SCIENTIFIC SCHOOL.—Continued.

Year.	Graduates.	Total in School.	Per Cent of Graduates to Matriculates.
1881	43	188	22
1882	36	206	17
1883	46	213	21
1884	43	250	17
1885	69	256	26
Total	237	1113	21
1886	63	279	22
1887	57	291	19
1888	77	308	25
1889	72	343	20
1890	65	379	17
Total	334	1600	20
1891	88	461	18
1892	103	529	19
1893	109	603	18
1894	142	662	21
1895	161	584	27
Total	603	2839	21

Summary by Five Year Periods.

Period.	Graduates.	Total in Period.	Per Cent of Graduates to Matriculates.
1866–70	101	651	15
1871–75	169	1076	15
1876–80	230	965	23
1881–85	237	1113	21
1886–90	334	1600	20
1891–95	603	2839	21
Total	1674	8234	20

IV.

Professional Schools.

1. Law:
   - A. Harvard University, Law Department.
   - B. University of Michigan, Law Department.
   - C. Northwestern University, Law School.

2. Medicine:
   - A. Harvard University, Medical Department.
   - B. University of Michigan, Medical Department.
   - C. University of Pennsylvania, Medical Department.

3. Theological Seminaries:
   - A. Andover Theological Seminary.
   - B. Auburn Theological Seminary.

C. Berkeley Divinity School.
D. Garrett Biblical Institute.
E. Harvard Divinity School.
F. Princeton Theological Seminary.
G. McCormick Theological Seminary.

In the following tables relating to professional schools, two objects were sought: First. Has the number of college graduates in these schools increased or decreased in thirty years? Second. What changes have taken place in the average age of graduates in this period? Unless otherwise indicated, the information is compiled from returns furnished on application to each institution:

1 A.—HARVARD UNIVERSITY. (LAW DEPARTMENT.)

(Compiled from "Quinquennial Catalogue, 1636–1895.")

CLASS.	Graduates.	Number having A. B. at Graduation.	Per Cent A. B.'s.
1866	69	36	52
1867	74	33	44
1868	58	25	43
1869	68	27	39
1870	53	23	43
Total	322	144	44
1871	74	34	45
1872	40	23	57
1873	31	20	64
1874	44	24	50
1875	36	26	72
Total	225	127	56
1876	48	26	54
1877	52	33	63
1878	51	34	66
1879	11	4	36
1880	19	15	78
Total	181	102	56
1881	18	15	83
1882	33	25	75
1883	19	11	57
1884	24	13	54
1885	23	15	65
Total	117	79	67
1886	18	16	88
1887	27	23	85
1888	34	30	88
1889	31	22	70
1890	52	40	76
Total	162	131	80
1891	47	41	87
1892	57	48	84
1893	73	53	72
1894	80	55	68
1895	—	—	—
Total	257	197	76

SUMMARY BY FIVE YEAR PERIODS.

PERIOD.	Graduates.	Number having A. B. at Graduation.	Per Cent A. B.'s.
1866–70	322	144	44
1871–75	225	127	56
1876–80	181	102	56
1881–85	117	79	67
1886–90	162	131	80
1891–95	257	197	76
Total	1264	780	61

B.—UNIVERSITY OF MICHIGAN. (LAW DEPARTMENT.)

(Compiled from "General Catalogue, 1837–90.")

PERIOD.	Graduates.	Number having A. B. at Graduation.	Per Cent A. B.'s.
1866	109	16	14
1867	146	13	8
1868	152	15	9
1869	129	10	7
1870	120	8	6
Total	656	62	9
1871	117	9	7
1872	142	16	11
1873	123	12	9
1874	127	10	7
1875	136	17	12
Total	645	64	9
1876	159	9	5
1877	122	12	9
1878	148	13	8
1879	192	16	8
1880	175	15	8
Total	796	65	8
1881	145	9	6
1882	170	15	8
1883	155	14	9
1884	134	10	7
1885	136	10	7
Total	740	58	7
1886	116	14	12
1887	154	12	7
1888	146	10	6
1889	147	12	8
1890	212	9	4
Total	775	57	7

SUMMARY BY FIVE YEAR PERIODS.

PERIOD.	Graduates.	Number having A. B. at Graduation.	Per Cent A. B.'s.
1866–70	656	62	9
1871–75	645	64	9
1876–80	796	65	8
1881–85	740	58	7
1886–90	775	57	7
Total	3612	306	8

C.—NORTHWESTERN UNIVERSITY LAW SCHOOL.

Class.	Graduates.	Number having A. B. at Graduation.	Per Cent A. B.'s.
1866	24	—	—
1867	20	2	10
1868	13	—	—
1869	20	4	20
1870	28	—	—
Total	105	6	5
1871	25	2	8
1872	10	—	—
1873	6	—	—
1874	14	1	—
1875	26	3	—
Total	81	6	7
1876	50	12	—
1877	41	12	—
1878	35	8	—
1879	47	7	—
1880	32	9	—
Total	205	38	23
1881	29	5	—
1882	53	19	—
1883	56	14	—
1884	46	12	—
1885	42	6	—
Total	226	56	24
1886	49 } 149	11	—
1887	49 }	14	—
1888	51 }	15	—
1889	64	—	—
1890	54	—	—
Total	267	40	26*
1891	62	—	—
1892	76	—	—
1893	73	—	—
1894	52 }	20	—
1895	63 } 115	32	—
Total	326	52	45†

* For three years. † For two years.

Summary by Five Year Periods.

Period.	Graduates.	Number having A. B. at Graduation.	Per Cent A. B.'s.
1866–70	105	6	5
1871–75	81	6	7
1876–80	205	48	23
1881–85	226	56	24
1886–90	267 149*	40	20‡
1891–95	326 115†	52	45ʓ
Total	1210 881	208	17

* 1886-88 — three years = 149. † 1894-95 — two years = 115.

‡ For three years. ʓ For two years.

2 A —HARVARD UNIVERSITY. (MEDICAL DEPARTMENT)

(Compiled from "Quinquennial Catalogue, 1636–1895.")

CLASS.	Graduates.	Number having A. B. at Graduation.	Per Cent A. B.'s.
1866	100	17	17
1867	87	21	27
1868	88	21	23
1869	70	18	25
1870	69	13	18
Total	414	90	21
1871	61	12	19
1872	58	13	22
1873	42	12	28
1874	38	18	47
1875	30	12	40
Total	229	67	29
1876	36	12	33
1877	62	25	40
1878	47	26	55
1879	70	27	38
1880	45	21	46
Total	260	111	42
1881	60	26	43
1882	86	28	32
1883	74	32	43
1884	56	31	55
1885	60	28	46
Total	336	145	43
1886	67	27	40
1887	84	45	53
1888	72	35	48
1889	54	31	31
1890	70	25	25
Total	347	163	46
1891	66	30	45
1892	93	34	37
1893	76	32	32
1894	124	52	52
1895	—	—	—
Total	359	148	41

SUMMARY BY FIVE YEAR PERIODS.

PERIOD.	Graduates.	Number having A. B. at Graduation.	Per Cent A. B.'s.
1866–70	444	90	20
1871–75	229	67	29
1876–80	260	111	42
1881–85	336	145	40
1886–90	347	163	46
1891–94	359	148	41
Total	1975	724	36

B.—UNIVERSITY OF MICHIGAN. (MEDICAL DEPARTMENT.)

(Compiled from "General Catalogue, 1837-1890.")

CLASS.	Graduates.	Number having A. B. at Graduation.	Per Cent A. B.'s.
1866	74	8	10
1867	82	5	6
1868	81	4	4
1869	98	4	4
1870	86	4	4
Total	421	25	5
1871	82	1	1
1872	89	5	3
1873	91	1	1
1874	71	0	0
1875	79	1	1
Total	412	8	1
1876	93	2	2
1877	84	3	3
1878	98	2	2
1879	104	2	1
1880	92	2	2
Total	471	11	2
1881	101	3	2
1882	91	7	7
1883	117	5	4
1884	85	4	4
1885	80	2	2
Total	474	21	4
1886	83	3	3
1887	81	4	4
1888	65	4	5
1889	82	6	7
1890	89	4	4
Total	400	21	5

SUMMARY BY FIVE YEAR PERIODS.

PERIOD.	Graduates.	Number having A. B. at Graduation.	Per Cent A. B.'s.
1866-70	421	25	5
1871-75	412	8	1
1876-80	471	11	2
1881-85	474	21	4
1886-90	400	21	5
Total	2178	86	3

C.—UNIVERSITY OF PENNSYLVANIA. (MEDICAL DEPARTMENT.)

CLASS.	Graduates.	Number having A. B. at Graduation.	Per Cent A. B.'s.	Average Age Graduates.
1866	164	No record.	No record.	No record.
1867	155	"	"	"
1868	150	"	"	"
1869	128	"	"	"
1870	113	"	"	"
Total	710	"	"	"
1871	117	"	"	"
1872	83	"	"	"
1873	99	"	"	"
1874	121	"	"	24.4
1875	101	"	"	25 8
Total	521	"	"	25.1
1876	122	"	—	25
1877	121	16	13	23.4
1878	127	—	—	25.8
1879	91	10	1	23.6
1880	116	24	20	23.2
Total	577	50	8	24.2
1881	120	24	20	23.3
1882	122	33	27	24.9
1883	101	31	30	24.2
1884	101	22	21	25.6
1885	108	31	29	26.5
Total	552	141	25	24.9
1886	119	32	26	25.5
1887	99	33	33	27.5
1888	118	25	21	26.7
1889	128	32	25	27.6
1890	115	21	18	28.5
Total	579	143	24	27.1
1891	135	31	22	27.8
1892	154	34	22	27.8
1893	202	57	28	28.6
1894	199	35	17	27.4
1895	250	64	25	26.8
Total	940	221	23	27.6

SUMMARY BY FIVE YEAR PERIODS.

PERIOD.	Graduates.	Number having A. B. at Graduation.	Per Cent A. B.'s.	Average Age Graduates.
1866–70	710	No record.	No record.	No record.
1871–75	521	"	"	25.1†
1876–80	577	50	8	24.2
1881–85	552	141	25	24.9
1886–90	579	143	24	27.1
1891–95	940	221	23	27.6
Total	2648	555	20*	25.9

* For four periods. † Two years, 1874 and 1875.

3A.—ANDOVER THEOLOGICAL SEMINARY.

Class.	Graduates.	Number having A. B. or Equivalent at Graduation.	Per Cent A. B.'s.	Average Age Graduates.
1866	23	22	91	27.5
1867	24	24	100	28
1868	42	38	90	27.3
1869	34	32	94	27.5
1870	28	27	96	28
Total	151	143	94	27.6
1871	19	17	89	27
1872	25	22	88	27
1873	22	21	95	29
1874	22	21	95	28.3
1875	19	15	78	27
Total	107	96	89	27.6
1876	12	10	83	28
1877	23	21	91	28
1878	19	15	78	28
1879	19	16	84	28
1880	28	22	78	29
Total	101	84	83	28.2
1881	27	26	97	27.5
1882	23	18	78	27.5
1883	9	9	100	26.5
1884	7	7	100	28
1885	13	11	84	28
Total	79	71	89	27.5
1886	13	9	69	29
1887	17	13	76	29
1888	20	18	90	28
1889	8	5	62	28
1890	13	9	69	29
Total	71	54	76	28.6
1891	12	11	91	28.5
1892	24	20	83	29
1893	13	11	84	30
1894	26	23	80	28
1895	18	16	88	28
Total	93	81	87	28.7

Summary by Five Year Periods.

Period.	Graduates.	Number having A. B. or Equivalent at Graduation.	Per Cent A. B.'s.	Average Age Graduates.
1866–70	151	143	94	27.6
1871–75	107	96	89	27.6
1876–80	101	84	83	28.2
1881–85	79	71	89	27.5
1886–90	71	54	76	28.6
1891–95	93	81	87	28.7
Total	602	529	87	28

B.—AUBURN THEOLOGICAL SEMINARY.

Class.	Graduates.	Number having A. B or Equivalent at Graduation.	Per Cent A. B.'s.	Average Age Graduates.
1866	12	8	66	30.90
1857	9	8	77	28.40
1868	13	11	81	29
1869	14	10	71	28.86
1870	17	10	58	30.29
Total	65	47	72	29.49
1871	9	6	66	27.63
1872	9	8	77	28.78
1873	18	14	77	29.50
1874	10	7	7	28
1875	9	9	10	29.11
Total	55	44	80	28.60
1876	13	12	9	28.08
1877	15	11	74	27.53
1878	16	16	10	28.19
1879	13	11	84	29.31
1880	12	7	59	29.08
Total	69	57	82	28.43
1881	17	13	64	28.35
1882	20	15	75	27.30
1883	18	13	61	27.33
1884	11	7	63	29.27
1885	15	11	73	28.40
Total	81	59	72	28.13
1886	15	10	13	28.87
1887	14	6	42	27.36
1888	10	9	9	30.50
1889	21	11	52	28.86
1890	17	8	47	29.94
Total	77	44	57	29.10
1891	16	8	5	30.31
1892	16	14	87	27.94
1893	19	12	63	29.21
1894	30	22	73	29.07
1895	19	14	74	27.53
Total	100	70	70	28.61

Summary by Five Year Periods.

Period.	Graduates.	Number having A. B. or Equivalent at Graduation.	Per Cent A. B.'s.	Average Age Graduates.
1866–70	65	47	72	29.49
1871–75	55	44	80	28.60
1876–80	69	57	82	28.43
1881–85	81	57	72	28.13
1886–90	77	59	56	29.10
1891–95	100	44	70	28.81
Total	447	308	68	28.72

C.—BERKELEY DIVINITY SCHOOL.

Class.	Graduates.	Number having A. B. or Equivalent at Graduation.	Per Cent A. B.'s.
1866	8	6	75
1867	6	4	66
1868	9	6	66
1869	11	9	81
1870	6	3	50
Total	40	28	70
1871	11	2	18
1872	13	11	84
1873	13	9	69
1874	10	9	90
1875	10	8	80
Total	57	39	68
1876	17	14	82
1877	9	8	88
1878	9	7	74
1879	8	6	75
1880	7	7	100
Total	50	42	84
1881	8	7	87
1882	10	7	70
1883	21	20	95
1884	14	11	78
1885	8	7	87
Total	61	52	85
1886	13	11	84
1887	9	9	100
1888	10	2	20
1889	12	11	91
1890	8	5	62
Total	52	38	73
1891	9	8	88
1892	9	5	55
1893	8	6	75
1894	11	9	81
1895	8	4	50
Total	45	32	71

Summary by Five Year Periods.

Period.	Graduates.	Number having A. B or Equivalent at Graduation.	Per Cent A. B.'s.
1866–70	40	28	70
1871–75	57	39	68
1876–80	50	42	84
1881–85	61	52	85
1886–90	52	38	73
1891–95	45	32	71
Total	305	231	75

D.—GARRETT BIBLICAL INSTITUTE.

Class.	Graduates.	Number having A. B. or Equivalent at Graduation.	Per Cent A. B.'s.
1866	6	5	83
1867	12	11	91
1868	7	2	28
1869	8	0	—
1870	15	2	13
Total	48	20	41
1871	9	—	—
1872	11	—	—
1873	7	—	—
1874	4	—	—
1875	12	—	—
Total	43	—	—
1876	14	9	64
1877	8	3	37
1878	22	11	50
1879	18	5	27
1880	14	4	28
Total	76	32	42
1881	16	7	43
1882	21	9	42
1883	28	11	39
1884	19	6	31
1885	18	5	27
Total	102	38	37
1886	9	3	33
1887	23	10	43
1888	34	9	26
1889	21	5	23
1890	35	10	28
Total	122	37	30
1891	38	14	36
1892	37	12	32
1893	22	7	31
1894	20	5	25
1895	25	18	72
Total	142	56	39

Summary by Five Year Periods.

Period.	Graduates.	Number having A. B. or Equivalent at Graduation.	Per Cent A. B.'s.
1866–70	48	20	41
1871–75	43	—	—
1876–80	76	32	42
1881–85	102	38	37
1886–90	122	37	30
1891–95	142	56	39
Total	533	183	34

E.—HARVARD DIVINITY SCHOOL.

Class.	Graduates.	Number having A. B. or Equivalent at Graduation.	Per Cent A. B.'s.
1866	8	8	100
1867	2	1	50
1868	7	4	57
1869	8	3	37
1870	8	1	12
Total	33	17	51
1871	10	2	20
1872	14	4	28
1873	4	2	50
1874	6	4	66
1875	4	1	25
Total	38	13	34
1876	5	2	40
1877	6	4	66
1878	4	3	75
1879	3	1	33
1880	5	4	80
Total	23	14	60
1881	6	6	100
1882	5	4	80
1883	6	4	66
1884	3	1	33
1885	6	4	66
Total	26	19	73
1886	4	4	100
1887	4	4	100
1888	2	2	100
1889	3	3	100
1890	4	4	100
Total	17	17	100
1891	7	6	85
1892	4	4	100
1893	4	4	100
1894	4	4	100
1895	6	5	83
Total	25	23	92

Summary by Five Year Periods.

Period.	Graduates.	Number having A. B. or Equivalent at Graduation.	Per Cent A. B.'s.
1866–70	33	17	51
1871–75	38	13	34
1876–80	23	14	60
1881–85	26	19	73
1886–90	17	17	100
1891–95	25	23	92
Total	162	103	63

F.—PRINCETON THEOLOGICAL SEMINARY.

(Compiled from "General Catalogue.")

Class.	Graduates.	Number having A. B. or Equivalent at Graduation.	Per Cent A. B.'s.
1866	53	52	98
1867	42	42	100
1868	49	44	89
1869	43	36	83
1870	61	56	91
Total	248	230	92
1871	39	39	100
1872	54	50	92
1873	40	35	87
1874	52	47	90
1875	48	44	91
Total	233	215	92
1876	42	41	97
1877	52	46	88
1878	47	44	93
1879	48	44	91
1880	51	45	88
Total	240	220	91
1881	62	59	95
1882	55	48	87
1883	67	58	86
1884	64	53	82
1885	68	51	75
Total	316	269	85
1886	74	64	86
1887	74	65	87
1888	70	62	88
1889	73	60	82
1890	78	72	92
Total	369	323	87
1891	93	81	87
1892	105	86	81
1893	102	83	81
1894	—	—	—
1895	—	—	—
Total	300	250	83*

Summary by Five Year Periods.

Period.	Graduates.	Number having A. B. or Equivalent at Graduation.	Per Cent A. B.'s.
1866–70	248	230	92
1871–75	233	215	92
1876–80	240	220	91
1881–85	316	269	85
1886–90	369	323	87
1891–95	300	250	83
Total	1706	1507	88

* For three years.

G.—McCORMICK THEOLOGICAL SEMINARY.

Class.	Graduates.	Number having A. B. or Equivalent at Graduation.	Per Cent A. B.'s.	Average Age Graduates.
1866	9	9	100	—
1867	13	13	100	—
1868	6	5	80	—
1869	13	13	100	—
1870	7	7	100	—
Total	48	47	97	—
1871	9	9	100	—
1872	7	7	100	—
1873	5	5	100	—
1874	6	5	80	—
1875	2	2	100	—
Total	29	28	96	—
1876	5	4	80	—
1877	14	12	85	—
1878	12	11	91	—
1879	17	13	76	—
1880	12	11	91	—
Total	60	51	85	—
1881	6	6	100	—
1882	3	3	100	—
1883	10	9	90	—
1884	12	9	75	—
1885	11	8	72	—
Total	42	35	83	—
1886	24	17	70	28.20
1887	31	24	77	30
1888	39	33	84	28.65
1889	42	35	83	28.8
1890	36	30	83	28.50
Total	172	139	80	28.83
1891	54	46	85	28
1892	46	42	91	28.83
1893	71	61	85	28.60
1894	53	47	88	28.31
1895	61	52	85	28.56
Total	285	248	87	28.46

During the last ten years, of the total number of graduates, the following number have taken a degree without Hebrew: In 1886, 5; 1887, 1; 1888, 3; 1889, 1; 1890, 2; 1891, 9; 1892, 4; 1893, 2; 1894, 3; 1895, 1.

Summary by Five Year Periods.

Period.	Graduates.	Number having A. B. or Equivalent at Graduation.	Per Cent A. B.'s.	Average Age Graduates.
1866–70	48	47	98	—
1871–75	29	28	96	—
1876–80	60	51	85	—
1881–85	42	35	83	—
1886–90	172	139	80	28 83
1891–95	285	248	87	28.46
Total	636	548	86	28 64

MISCELLANEOUS BUSINESS.

PRESIDENT MACKENZIE.—It has been arranged that there should be no more speeches in continuance of the round-table. We have some resolutions to be offered by President Schurman. Doctor Harris desires to make a brief speech for a few moments. We shall then remain for the business meeting; but everybody is free—time is very short at this point. I make the announcement now so there may be no unpleasant feeling on the part of anybody in the audience.

PRESIDENT SCHURMAN.—Ladies and Gentlemen:—I have in hand a series of resolutions prepared by a distinguished expert of this association; I have also tried my own hand in the preparation of a series of resolutions; but I am very anxious that at least one resolution should prevail, and so I have put aside all the others and seized this opportunity immediately after the delivery of this eloquent address, to which we have all listened with so much satisfaction, to present that one resolution which, in the interest not only of the colleges, but especially of the high schools and of the education of the people, I hope will pass unanimously. That resolution I will now present to the secretary.

(Secretary Adams then read: "Resolved, That it is the sense of the meeting that the present standard of requirements for admission to college, scientific and professional courses should not be lowered.")

PRESIDENT MACKENZIE.—You have heard the resolution: is it seconded? . . . Moved and seconded. Any remarks?

PRESIDENT REED, of Dickinson College.—I would like to move an amendment, Mr. Chairman, to that resolution, that "The present standard of requirements for admission to colleges shall not be lowered, and that the standard for admission to the professional schools connected with the universities ought to be largely increased."

PRESIDENT SCHURMAN.—I am afraid that resolution would not pass, at least, unanimously. It is along the lines of this resolution. I ask the mover of that amendment if he will not consider the situation in which we find ourselves. The educators of these Middle States and Maryland have had before them the question whether certain standards now prevailing should not be lowered. I am very anxious that a clear and unmistakable answer be given in the negative. If on a future occasion,—say next year,—it is proposed that the entrance requirements to certain theological institutions—certain legal or medical institutions—should be raised, I shall not be opposed to discussing it; but it seems to me at the present time our position as educators should be safeguarded and the public should be informed exactly where we stand on this question of lowering the entrance requirements. My resolution contemplates a direct answer in the negative to the proposal to let down the bars.

DOCTOR EDWARD MAGILL.—I hope the resolution will go as originally presented. It is very important that that should go out of this body untrammeled by any other; and as has been said by President Schurman, it is a question whether we shall let down the bars. We are not prepared, I am sure, to pass the modified resolution unanimously; and I hope this body is prepared to pass the resolution unanimously as first prepared.

DOCTOR CRAWFORD.—The question before us has been the requirements for entrance at college, the liberal arts department, we understand it. I think we can all agree upon that part; and shall we not, as President Schurman really intimated, allow the technical school matter to go over to another year for later discussion? I think we are all ready to vote upon one question; but I am not ready to vote as the question now stands.

PRESIDENT SCHURMAN.—I am quite prepared, for the sake of getting a unanimous expression from this association, which we shall communicate to the public as our sentiment, to modify the resolution. I am quite willing to strike out the two terms "scientific" and "professional"—dealing solely, at this gathering, with college education; and at some future time take up the other; so that the resolution as amended would read: "Resolved, That it is the sense of this meeting that the present standard of requirements for admission to college should not be lowered."

PRESIDENT REED.—My resolution was seconded; but I would like the consent of the body to withdraw the amendment.

MR. DEWEY.—I move the resolution lie on the table until discussed. There are a good many in the room not prepared to pass it. The requirements of some colleges are far and away,—a year or two in advance,—of some others. I do not believe it is right to pledge this body unanimously to fortify certain views of this question. The Commissioner of Education expressed clearly the opinion that we ought to reduce some of these things. Certainly this body is not unanimously of this opinion. I move the resolution be laid upon the table. You cannot vote intelligently upon this at this point.

PRESIDENT MACKENZIE.—It is moved and seconded that the resolution be laid upon the table. (Motion to lay upon table defeated.) Any further remarks upon the question?

DOCTOR MICKELBOROUGH.—We have had a most delightful program, but permit me to say that the high school men have not been very much in evidence at this meeting. I am not complaining; but I do think there are some of us engaged in this high school work who have not this college entrance fever at all. I represent the Boys' High School of Brooklyn; we try to do good secondary work in that school, and our boys go to a great many colleges. We have from the classes of last June, students now at Yale, Harvard, Princeton, Cornell, Amherst, Williams and several other colleges I could name; so our boys go abroad to the various colleges. We are not so much concerned about this question of college entrance as that we may give our boys good secondary education and so——

PRESIDENT THURBER.—Mr. President, I should like to ask what the subject is. I have boys and girls at twenty-five different colleges; and what is the standard? I have the catalogues of all of them and not two are alike. We don't ask in our school that any standard should be lowered. We would like to know what the standard is. If we can have a standard to go by and that we can send our boys and girls out by, we would be very happy to have it.

DOCTOR EDWARD MAGILL.—The question is very plain that we are going to vote on. There is no difficulty in my mind of that character. We all know what the general average standard of admission to the college is, and we are talking about the general average,—we are not talking about the individual college. We believe that the general average should not be lowered,—that is all,—that is what that means: we cannot speak of individual colleges. I hope the resolution will be passed without modification.

PRESIDENT HOLLAND.—This body, in passing a resolution of that kind, only expresses its opinion. We have no legislative rights nor functions: it is only an expression of the common sense of the body that is assembled here; and it seems to me, after the lengthy discussion that we have heard, that there can be no possible harm in expressing ourselves clearly as to what has been said. I think we are all in favor of the maintenance of the old arts course just as it stands; and I should like very much, as a member of the College and University Council of Pennsylvania, that will shortly approach the Legislature of this State with a recommendation touching this whole question of college entrance requirements—to see this Council fortified by an expression of opinion such as is proposed to be taken here. I may be divulging matters that relate to future legislation; but I do not think I am acting inadvisedly in so doing. There is a proposition before that body, created by the Legislature of this State, to fix a set of college requirements which shall be what we regard a reasonable degree of severity; and it is in the line of a good old-fashioned B. C. course. I hope this resolution will pass.

DOCTOR LANDON.—Perhaps (the new resolution has already made one concession)—in my judgment there should be one other concession which would make it meet the requirements of the case—namely, the word added, "Resolved, That the *average* standard shall not be lowered." If that meets the necessities of the case it would perhaps enable us all to vote unanimously.

PRESIDENT MACKENZIE.—You have heard the question: are you ready for it? Those in favor of the motion as read kindly rise to their feet on President's Schurman's motion. The Secretary will read the motion.

SECRETARY ADAMS.—"Resolved that it is the sense of this meeting that the present standard of requirements for admission to college should not be lowered."

PRESIDENT MACKENZIE.—Negative vote. Unanimously carried.

A voice in the Convention.—I would like to add that the secondary school men be given an opportunity to——

PRESIDENT MACKENZIE.—Moved and seconded that hereafter such questions be debated by secondary school men as well as by the college. Any remarks?

DR. LARKINS, of Brooklyn.—In this discussion we have had a great deal from the college men and nothing whatever from the secondary school men, excepting as in the case of the Chicago University—what it has been minded to say here—as our representative under the name of the Adelphi Academy has been giving us as a representative. So far as concerns the question under discussion—whether the college requirements should be reduced or not—I care nothing. My present graduating class signify their intention of entering college; there is thirteen out of twenty; and three more are contemplating the question. Nevertheless, I feel that this association has treated the secondary schools unfairly in this discussion. We have had no representative on this floor.

PRESIDENT MACKENZIE.—I am very sorry; but there is no motion before the house, unless you are stating a motion.

MR. LARKINS.—I move that hereafter, when any discussion regarding secondary schools comes before this association, that the secondary school men be given an opportunity to express themselves upon the question.

PRESIDENT MACKENZIE.—You have heard the motion. Is it seconded?

MR. FARRAND.—As a member of the Executive Committee and a secondary school master, I wish to say one word in defence of this program. The Executive Committee did place upon that program some three or four secondary school masters; but our object was not to secure a definite discussion of the subject upon all sides. It was to bring here those various college presidents and to get them placed on record on this question before the public. The secondary school men are thoroughly alive and awake; and the thing to do was to get the public thoroughly aroused; and we believe, through the publicity which will be given to their speeches, the object has been gained.

DOCTOR WILLIAM W. BIRDSALL, of Friends' Central School, Philadelphia, speaking as a secondary school man, and appreciating to a very high degree the benefits which we have already derived from the discussions we have listened to here to-day—feeling, too, a very great obligation to the Executive Committee for its exceedingly wise action in the arrangement of the program—I move to lay the motion on the table.

PRESIDENT MACKENZIE.—So ordered: the motion is on the table.

DOCTOR REED.—I would like to inquire if the committee has sole power in the preparation of program to select the topics which may appear; or is it the province of this body to make the selection?

PRESIDENT MACKENZIE.—The powers of this body are not defined. They are understood to be the usual powers of an executive committee.

DOCTOR REED.—I would like to have brought before the next meeting the entrance requirements for the professional and technical schools represented in this organization.

PRESIDENT MACKENZIE.—The Chair knows no reason why that motion should not be entertained.

DOCTOR FARRAND.—I shall move the reference of this to the Executive Committee with power to have the best disposition we can make of it.

SECRETARY ADAMS.—It is the only disposition we can make of it.

DOCTOR REED.—We are entitled to make a request of that committee?

SECRETARY ADAMS.—Yes.

DOCTOR REED.—I make the motion because I believe that the main reason for the question of the requirements for entrance to college this year is due to the exceedingly low standards of requirements for admission to professional and technical schools; and a great deal of the effort arises from that consideration. Colleges might be immensely relieved if there could be a movement to increase the requirements for admission from the shamefully low standard they have at the present time. I therefore request the committee to put it among the topics for reference.

PRESIDENT MACKENZIE.—Are you ready for the question? Those in favor signify it by raising hands. Carried.

PRESIDENT MACKENZIE.—Any further matters of business? We are ready for Doctor Harris' address if he is here to make it. . . . I think Doctor Harris has been compelled to retire. We are therefore ready for the report of the Nominating Committee.

DOCTOR EDWARD MAGILL.—Your committee have considered very carefully the subject of continuing the organization under the present arrangement, and, following the Constitution and By-Laws as well, we all agree in the appointment, as we have concluded to make, the following nominations: For president, President I. G. Schurman, of Cornell University.

Before I introduce the names of vice-presidents, I have been requested by the committee to say that we placed the first name on the list of vice-presidents (of whom there are six) a name that ought to have public recognition here: the success of this association, particularly during the past five years, is due to no one man so much as the one who has served us so faithfully as our secretary, John Quincy Adams—[applause]—and feeling, as he did, that it would be impossible with his other duties for him to continue to give that valuable and laborious service any longer, we have concluded not to bring his name forward as secretary; and he is placed first on the list of vice-presidents—Professor John Quincy Adams, of the University of Pennsylvania; Chancellor Henry M. McCracken, of the University of the City of New York; Professor Edward Pace, of the Catholic University of Washington; Vice-President Charles F. Raddatz, of Baltimore College; Superintendent Randall Spaulding, Montclair, N. J. For secretary, Professor Dana C. Munro, University of Pennsylvania; for treasurer, Professor John B. Kieffer, Franklin and Marshall College. As additional members, besides those required by the Constitution, we pro-

pose the names of Professors Nicholas Murray Butler, Charles DeGarmo; Wilson Farrand; James C. Mackenzie.

PRESIDENT MACKENZIE.—What shall be done with the report of the Nominating Committee? Adopted.

PRESIDENT MACKENZIE.—Any further miscellaneous business?

DOCTOR FARRAND.—At the request of the American Metrological Society, I present the following resolution, which I presume will pass unanimously and without discussion. I would say that it has been before the Executive Committee, and meets with their approval. There was introduced at the last session of Congress a bill with reference to the adoption of the metrical system of weights and measures, that was referred to a committee, and will be presented again soon after the opening of Congress.

The American Metrological Society asks this association to adopt the following resolution:

"*Resolved*, That the Association of Colleges and Preparatory Schools of the Middle States and Maryland most respectfully and earnestly urges their representatives in Congress to consider favorably, and vote for, the bill to fix the standard of weights and measures by the adoption of the metrical system of weights and measures."

I would move the adoption of the resolution. (Motion carried.)

PRESIDENT MACKENZIE.—The Auditing Committee has a report to make.

Your Auditing Committee beg to state that they have examined the report of the Treasurer; they have found the record of receipts from dues, as well as of disbursements duly certified by the President of the Association, correct in every particular. And they take pleasure in adding that the careful tabulation made by the Treasurer has aided them materially in verifying the accounts.

Respectfully submitted,

JULIUS SACHS,
JOHN C. RICE.

Report accepted as read.

DOCTOR FARRAND.—Every one goes away thinking, however much certain papers have chided, that Philadelphia has not forgotten the fine old flavor of hospitality—that this association recognize in a formal way the hospitality.

I move that the thanks of the association be extended to the authorities of the University of Pennsylvania for their splendid and munificent hospitality; and would include in that motion that it be extended to the Girls' Normal School; also to the Houston Club in particular, and the Glee, Banjo and Mandolin Clubs of the University, who entertained us last evening; also, that the thanks of the association be extended Girard College, to the Drexel Institute and to Swarthmore College, for so kindly throwing their doors open to members of this association.

The resolution was carried by a rising vote.

Then adjourned.

TREASURER'S REPORT.

JOHN B. KIEFFER, *Treasurer, in account with the Association of the Colleges and Preparatory Schools of the Middle States and Maryland.*

1895.		CR.
Dec. 2,	By the amount of the bill of John B. Kieffer, Treasurer, under date of Nov. 29, 1895	$6 21
Dec. 11,	By the amount of the bill of the Avil Company, under date of Nov. 22, 1895	2 25
Dec. 11,	By the amount of the bill of the Avil Company, under date of Nov. 25, 1895	33 71
Dec. 11,	By the amount of the bill of the Avil Company, under date of Nov. 27, 1895	3 00
Dec. 11,	By the amount of the bill of John Quincy Adams, Secretary, under date of Dec. 2, 1895	9 64
1896.		
Jan. 15,	By the amount of the bill of F. T. Boland, stenographer, under date of Dec. 10, 1895	49 44
April 2,	By the amount of the bill of the Avil Company, under date of March 2, 1896	3 00
May 22,	By the amount of the bill of Dr. Jas. C. Mackenzie, under date of May 19, 1896	3 75
May 29,	By the amount of the bill of Prof. Wilson Farrand, under date of May 19, 1896	4 50
May 29,	By the amount of the bill of John B. Kieffer, Treasurer, under date of May 22, 1896	7 64
June 8,	By the amount of the bill of John Quincy Adams, Secretary, under date of June 2, 1896	10 27
June 8,	By the amount of the bill of M. L. Hendee, under date of June 2, 1896	12 00
July 9,	By the amount of the bill of the Avil Company, under date of April 30, 1896	406 85
Nov. 16,	By the amount of the bill of Dr. Jas. C. Mackenzie, under date of Nov. 6, 1896	4 10
Nov. 18,	By the amount of the bill of Wm. Fleming, under date of Nov. 13, 1896	17 00
	Amount of credits to the date of the report, Nov. 25, 1896	$573 36

JOHN QUINCY ADAMS,
Secretary.

CONSTITUTION

OF THE

ASSOCIATION OF COLLEGES AND PREPARATORY SCHOOLS

IN THE MIDDLE STATES AND MARYLAND.

ARTICLE I.

NAME AND OBJECT.

SECTION 1. The name of this Association shall be THE ASSOCIATION OF COLLEGES AND PREPARATORY SCHOOLS IN THE MIDDLE STATES AND MARYLAND.

SEC. 2. The object of the Association shall be to consider the qualifications for candidates for admission to college and the methods of admission; the character of the preparatory schools; the courses of study to be pursued in the colleges and schools, including their order, number, etc.; the relative number of required and elective studies in the various classes; the kind and character of degrees conferred; methods of organization, government, etc.; the relations of the colleges to the State and to the general educational systems of the State and country; and any and all other questions affecting the welfare of the colleges and schools, or calculated to secure their proper advancement.

ARTICLE II.

MEMBERSHIP AND VOTING.

SECTION 1. Any College, Normal or High School, or other school preparing students for college, in the Middle States and Maryland, may be received into membership in this Association upon approval of the Executive Committee.

SEC. 2. In transacting the ordinary business of the meetings of the Association all delegates present shall be entitled to vote, but on all questions requiring a decision *by ballot* each institution represented shall have but one vote.

ARTICLE III.

OFFICERS.

The officers of the Association shall be a President, one Vice-President from each State represented in the Association, a Secretary, a Treasurer, and an Executive Committee of four members, together with the President, Secretary and Treasurer, who shall be, *ex officiis*, members of the Executive Committee. These officers shall be chosen at the annual meeting, by ballot, and shall hold office for one year, or until their successors have been elected. The Executive Committee shall elect its own chairman.

ARTICLE IV.

DUTIES OF OFFICERS.

SECTION 1. The President, or in his absence the Vice-President, shall preside at all meetings of the Association, and sign all orders upon the Treasurer.

SEC. 2. The Secretary shall keep a record of all business transacted by the Association and conduct the necessary correspondence.

SEC. 3. The Treasurer shall receive and hold all moneys of the Association and pay out the same upon a written order of the President.

SEC. 4. The Executive Committee shall prepare business for the Association, fix time and place of annual meeting, call special meetings, and act for the Association in its recess; but the acts of this Committee shall always be subject to the approval of the Association.

ARTICLE V.

MEETINGS.

There shall be one annual meeting of the Association, for the election of officers and the transaction of other business. Unless determined by the Association the date and place of holding this meeting shall be decided by the Executive Committee, which Committee shall also have power to call special meetings of the Association.

ARTICLE VI.

EXPENSES.

To defray the expenses of holding the meetings of the Association, conducting the correspondence, printing, etc., the sum of five dollars shall be assessed upon each of the institutions represented in the Association, and any deficiency which may occur shall be provided for by special action of the Association.

ARTICLE VII.

POWER OF THE ASSOCIATION.

Decisions by the Association, of questions not pertaining to its organization, shall always be considered *advisory*, and not *mandatory*, each institution preserving its own individuality and liberty of action upon all other subjects considered.

ARTICLE VIII.

RELIGIOUS TESTS.

No religious tests shall be imposed in deciding upon membership or other privileges in this Association.

ARTICLE IX.

A QUORUM.

Representatives from one-third of the institutions belonging to the Association shall constitute a quorum for the transaction of business.

ARTICLE X.

CHANGE OF THE CONSTITUTION.

This Constitution may be altered or amended at any regular meeting by a vote, by ballot, of two-thirds of the institutions represented at said meeting.

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Shall Historical Studies be a Necessary Part of College Entrance

Requirements? Prof. H. Morse Stephens, 33–41.

Why selected to open discussion; no entrance requirement in history at Oxford or Cambridge, 34; personally, would rather have students come with no knowledge of history, 35; for the good of the schools, there should be an entrance requirement in history, 36; diversity in requirements is striking; harmony should be established; candidate for admission should be obliged to elect two of the four studies: Greek, Roman, English or American history, 37; those who do not intend to go to college, should study English and American history—if time but for one course, it should be American, 38; examination paper should be supplemented by written work done in the school; good teaching can be done by specialist teachers only, 40; we require that students come to us whose minds have been trained to work, to reflect, and accustomed to comparison of ideas, 40; then we hope to give teaching that may be worth something.

Discussion. Professor John B. McMaster, 41–43.

United States history ought not to have a place in entrance requirements; if a study is not to be continued immediately after entering college, but becomes an elective, an examination is a waste of time, 42; textbooks do not afford a knowledge of our history; examples cited; there should be a book so written that a boy could get a sufficient idea of American history to understand the questions of the present day, 43.

Same Topic. Professor Lucy M. Salmon, 43–48.

Educators to-day owe two services to cause of education—enriching curriculum of secondary schools, and unification of educational system; various questions growing out of fundamental one, 44; affirmative answer assumed, since fifty-six of the sixty colleges and universities examined, make positive requirement in history—three more optional; question may be re-stated, What history should be required for entrance to college; present system fails to meet needs of those who are preparing for college, and those who are not; to emphasize Greek and Roman history, is to give distorted view of historical movements, 45; impossible to understand American history without a basis of European, 46; entrance requirement should be in general history, 46.

Sharpless, Isaac, College Entrance Requirements, 149–153.

Sketch of Association, 16–19.

Statistical Tables, 173–200.

Stephens, H. Morse, Shall Historical Studies be a Necessary Part of College Entrance Requirements? 33–41.

Thomas, M. Carey, College Entrance Requirements, 97–103.

Thurber, Charles H., College Entrance Requirements, 130–138.

Treasurer's Report, 207.

Warfield, E. D., College Entrance Requirements, 153–159.

Williams, Talcott, College Entrance Requirements, 159–164a.

Worth of High School Science Studies as a Part of the Preparation for College. Prof. Ira Remsen, 48–62.

Are such studies of value in themselves; are they of value as actually pursued in the high schools, 49; study of science should develop scientific attitude of mind; speculative period, 50; scientific age; child an acute observer up to time it goes to school; then depends upon book knowledge, 51; proper instruction in science should keep child in close touch with nature, and add to his resources and pleasure in life; scientific method has revolutionized modern thought, 54; conservation of mass, of energy; evolution; something masquerading under name of scientific method, 55; even in courses far from perfect, there are often redeeming features; personal experience, 57; limited amount of time given to science, 59; lack of training of teachers, 60; lack of means, etc.; more

work and less speculation, 61; high theories too difficult for beginners; put book in background and things forward; simplify courses; main object of this kind of teaching.

Discussion. Prof. George F. Barker, 62–65.

Term "college" of doubtful meaning; the importance of things in relation to books has not been fully recognized, 63; here in Philadelphia, high school science studies are not intended as preparation for college, 64; fondness of younger men for teaching too advanced thought, 65.

Discussion. Prof. O. D. Clark, 66–70.

Great majority of secondary pupils are in public high schools; college professors have said they know but little of secondary school work, 66; we know a great deal about college instruction; high schools are not primarily preparatory for other institutions, 67; many a pupil roused to higher mental activity by interest in scientific study; majority of teachers come from high schools, so elementary science should be well taught there, 68; just as good work will be done by secondary schools as is required, 69; colleges should encourage high schools to do their best work, not undermine them by low entrance requirements; college should begin where high school leaves off, 70; at series of conferences last spring, public high schools practically ignored—why? position of high school teachers upon subject of college entrance requirements.